

H.264 Digital Video Recorder Stand-alone DVR



User's Manual

Ver 1.100

Guarantees higher stability and reliability with hardware codec.

INSTALLATION & SAFEGUARDS

All the safety and operating instructions should be read before operation.

Environment Condition for Installation

1. To prevent electric shock or other hazard, do not expose this unit to rain, moisture, or dust.
2. Place this unit in a well-ventilated place and do not place heat-generating objects on this unit.
3. This unit should not be located in an area where it is likely to be subjected to mechanical shocks.



Before You Start

1. Ensure the power switch is in the OFF position prior to installation.
2. Opening or removing the cover may expose you to dangerous voltage or other hazards.
3. Operate this unit within the range of room temperature and humidity.
4. Supply power through the type of power source indicated on the manufacturer's label and with the power supply included in this unit.
5. Keep this unit out of direct sunlight and heat .
6. Make sure conductive material does not go into the fan hole.



Notice

1. Before initial configuration or operation, first set TIME/DATE, and then set this unit to the FACTORY DEFAULT setting, and lastly HDD clear. Follow these steps in order. Otherwise it may cause non-recording on the HDD or non saving setting value. Or it may record, but you will not be able to search recorded data.
2. This unit is compatible with large sized HDD.
3. When setting RECORDING SETUP after installation, set not only RECORD CONFIGURATION, but also SCHEDULE SETUP. Setting Schedule setup is necessary as this unit records according to Record type & Schedule setup. Default setting value for Schedule setup is Continuous mode.
4. Stop recording before powering off this unit by entering setup menu. Powering off while recording may cause critical malfunctions such as Recording Error, Playback Error, or System Error.

FCC Information

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment under FCC rules.

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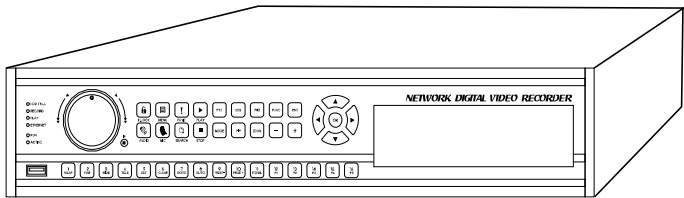
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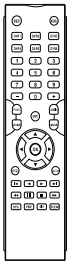
1. General Information

1-1. Package Contents & Description

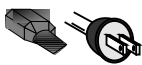
1. DVR Main Unit



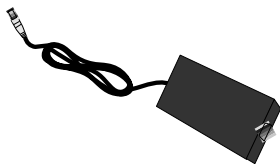
2. Remote Control



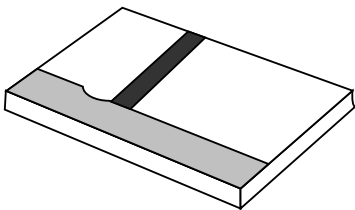
3. Power Cable



4. Power Adapter



5. User's Manual



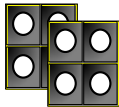
6. Software CD



7. Rubber Pad



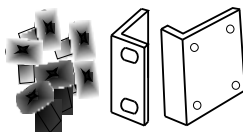
8. HDD Absorber



8. Batteries



9. Rack Mount Bracket
HDD Bolts



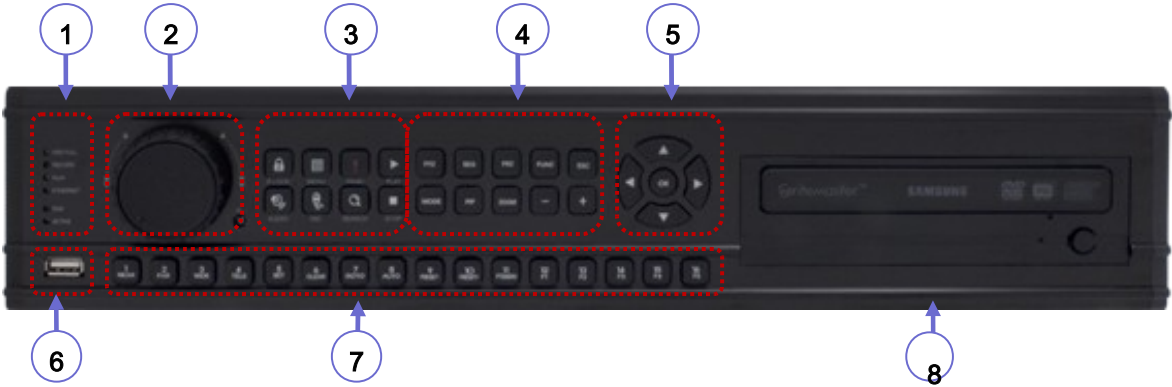
10. Mouse



Contents	Description
1. DVR Main Unit	Stand-Alone DIGITAL VIDEO RECORDER
2. Remote Control	Remote Control
3. Power Cable	AC power supply to adapter
4. Power Adapter	DC power supply
5. User's Manual	User's Manual
6. Software CD	Remote Viewer SOFTWARE
7. Rubber Pad	Prevent DVR from slipping by attaching on the bottom of the unit
8. HDD Absorber	Absorbing the mechanical shock of HDD against the case bottom
9. Batteries	Batteries for Remote Control
10. Rack Mount Bracket / Bolts	Rack Mount Bracket / 6 Bolts for fixing Rack Mount Bracket to DVR / 4 Bolts for fixing DVR with Rack Mount Bracket to 19" Rack / 8 Bolts for fixing HDD into DVR
11. Mouse	DVR function control

2. Function of Buttons

2-1. Front

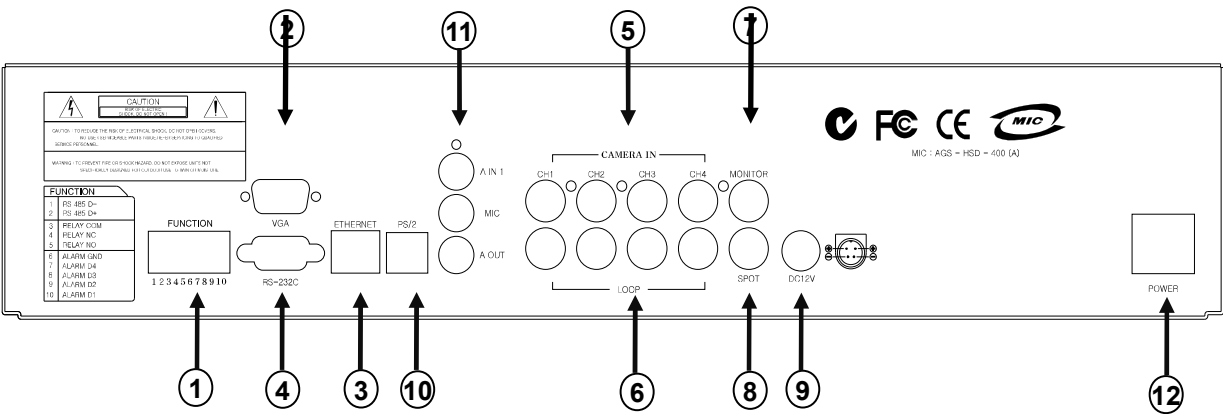


Name	Function	
1.LED Lamps	Status of operation	
2.Jog Shuttle	Jog shuttle activate only when in Pause: Pressing Jog Shuttle button will pause playback. Rotating clockwise causes it to move into ever-faster forward speed, and counter-clockwise causes it to move into ever-faster reverse speed. In Setup Menu, its rotation Increases or Decreases value.	
3.Function Key	MENU	Enter SYSTEM MENU
	PANIC	Panic recording at continuous mode at highest quality (120ips, Highest, 1/1x)
	BOOKMARK	Check the bookmark while playback for bookmark search.
	PLAY	Playback recorded data on HDD
	AUDIO	Select audio channel. Turn volume up/down
	K.LOCK	Locking the key. To unlock, keep pressing the button for a few seconds and input password (Same password for Setup Menu)
	SEARCH	Search recorded data on HDD
	STOP	Stop Playback.
4.LIVE View Control Key	PTZ	Shift LIVE mode to PTZ control mode
	MODE	Switch screen division from full screen to 16 split screen (in 1, 4, 9, 13, 16 sequence)
	SEQ	Auto camera image sequence in full screen mode
	PIP	Picture In Picture mode
	FRZ	Freeze Live display
	ZOOM	Zoom image

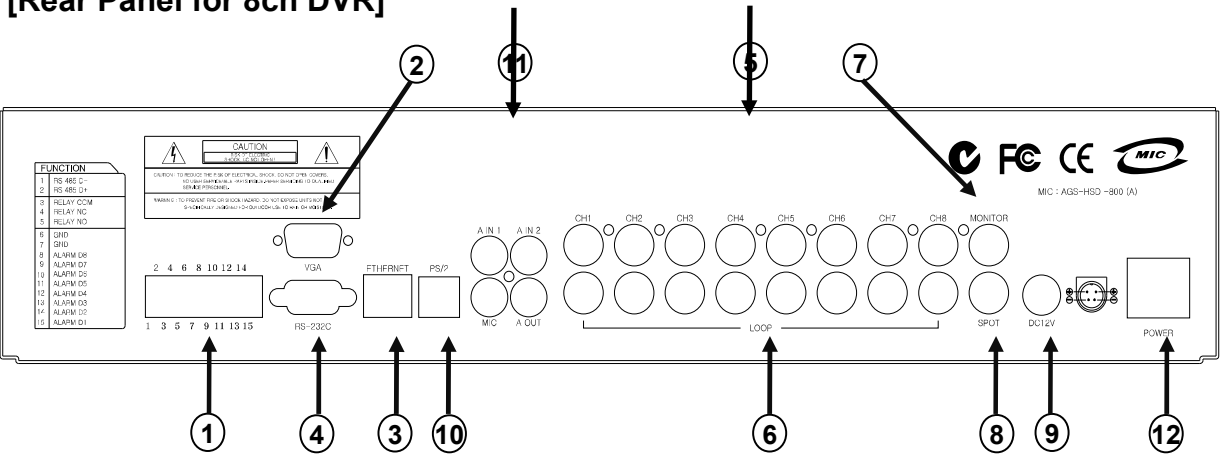
Name	Function	
4-1.Control Key	FUNC	Main menu panel On/Off
	ESC	Cancel selected menu panel
	+	Increase setting value, page shift
	-	Decrease setting value, page shift
5.Arrow key	Navigate in the menu	
6. USB Device	For Firmware upgrade and USB backup	
7.Camera Selection / PTZ Control	1~16 Button : Select camera channel in full screen mode	
	NEAR : FOCUS NEAR	PRESET + : Increase PRESET NO.
	FAR : FOCUS FAR	PRESET - : Decrease PRESET NO.
	WIDE : ZOOM IN	PTZMENU : PTZ MENU POPUP
	TELE : ZOOM OUT	F1 : USER 1
	SET : PRESET SET	F2 : USER 2
	CLEAR : PRESET CLEAR	F3 : USER 3
	GOTO : PRESET GOTO	F4 : USER 4
	AUTO : AUTO SCAN	F5 : USER 5
8.CD/DVD-ROM	For Firmware upgrade and CD/DVD backup	

2-2. Rear

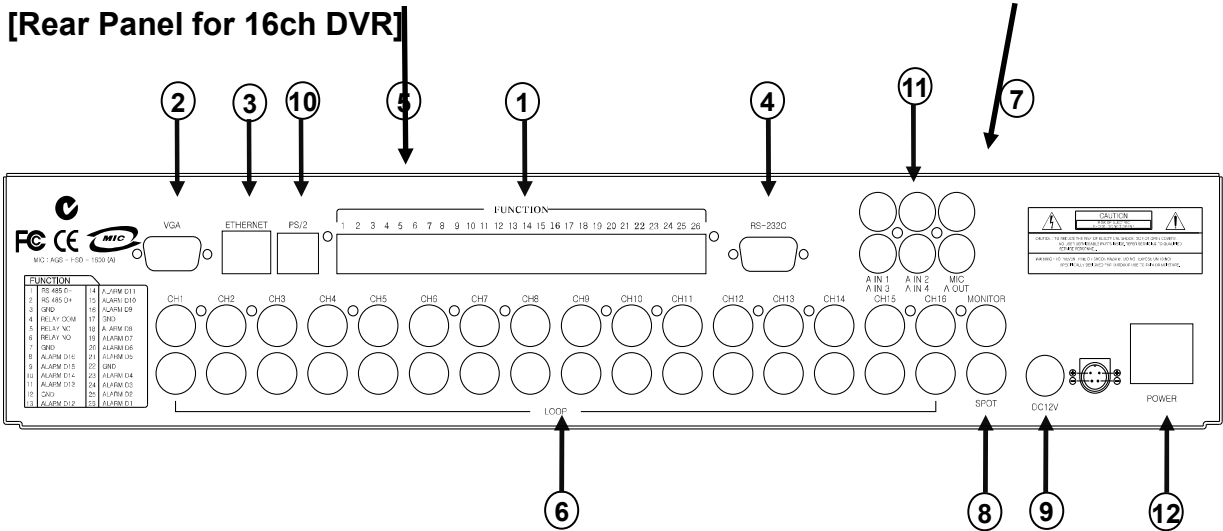
[Rear Panel for 4ch DVR]



[Rear Panel for 8ch DVR]



[Rear Panel for 16ch DVR]



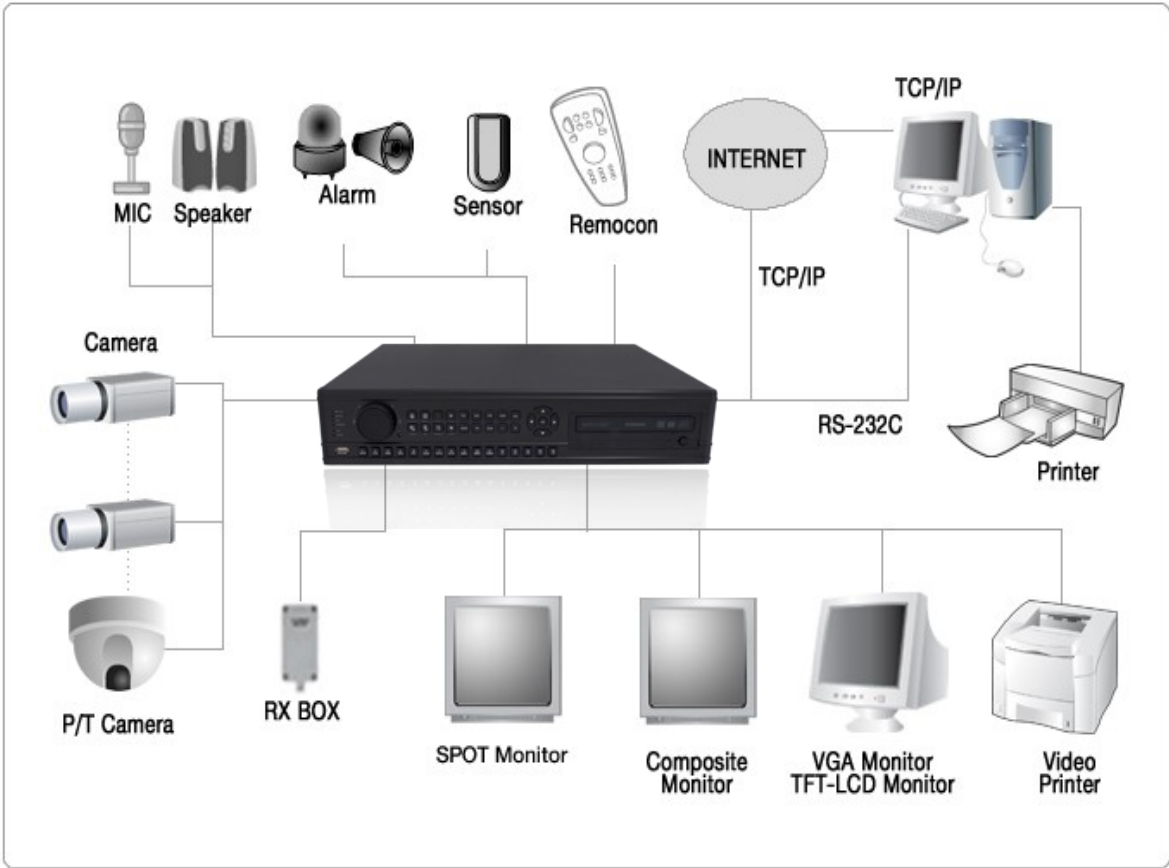
	Name	Function
1	RS 485	Connection with PTZ Camera or other external devices using RS 485
	RELAY Output	Relay Output terminal
	SENSOR Input	Sensor Input terminal
2	VGA	VGA Output to CRT or TFT LCD Monitors
3	ETHERNET	Connection to Ethernet devices
4	RS-232C	Connection to external devices such as PC using RS-232C to control DVR
5	Camera Input	Connection with NTSC/PAL Cameras
6	Loop Out	Camera Loop out
7	Monitor Output	Connection with NTSC/PAL Composite Monitor
8	SPOT Output	Connection from Analog backup output to external devices
9	DC Power	DC 12V 6.67A Adaptor
10	PS2 Mouse	Connection to PS2 Mouse
11	Audio	Microphone input and Audio output
12	POWER SWITCH	Power ON/OFF Switch



NOTE : You can not mix PAL and NTSC equipment. For example, you cannot use a PAL camera and NTSC monitor.

3. Installation

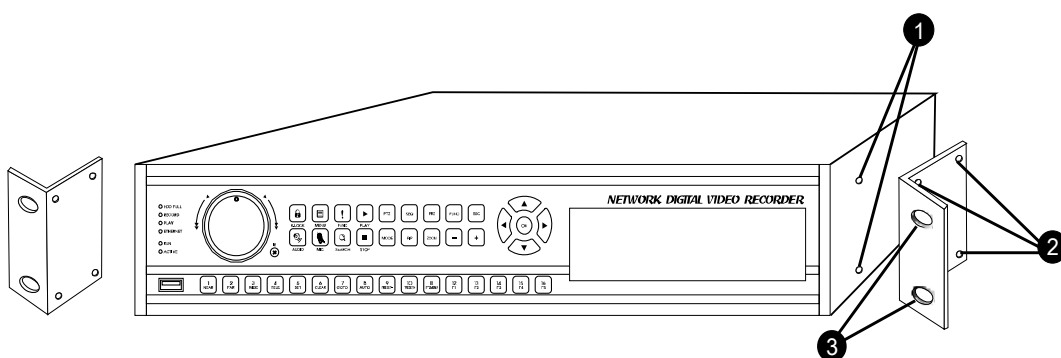
3-1. Configuration



[Typical Digital Video Recorder Installation]

3-2. Detailed Configuration

1) Rack mount

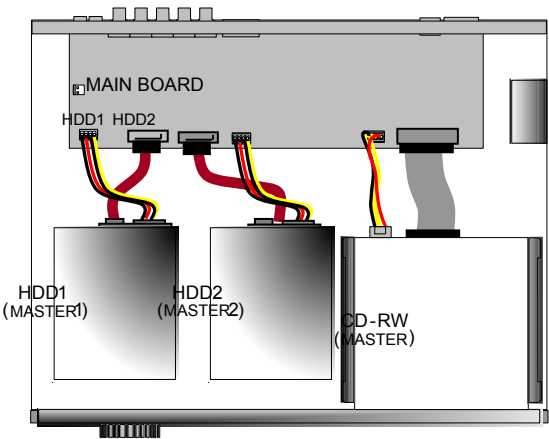


1. Remove all 4 bolts on side caps.
2. Attach Rack mount bracket to DVR.
3. Attach DVR with rack mount bracket to 19" Rack.

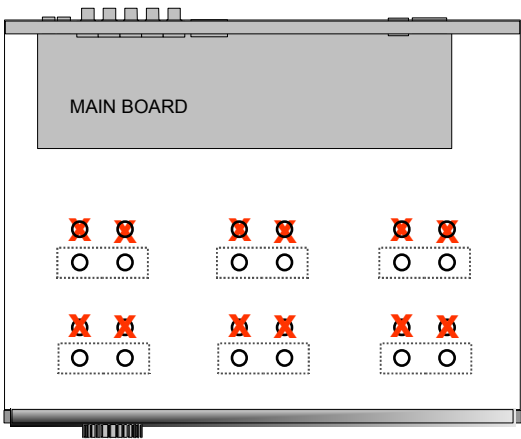
2) HDD (Hard Disk Drive) Connection

1. Connect Main Board and HDD1 using IDE cable and HDD power cable.
2. When you use just 1 HDD, install the HDD onto HDD1 location.
3. When you use 2 HDDs, install the first HDD onto HDD1 location and then install the second HDD onto HDD2 location in order.
4. Stick the HDD absorber (included in package) on the bottom of case and then install the HDD on top of them by using the bolts (included in package).
5. Screws must be inserted from outside of the case bottom.

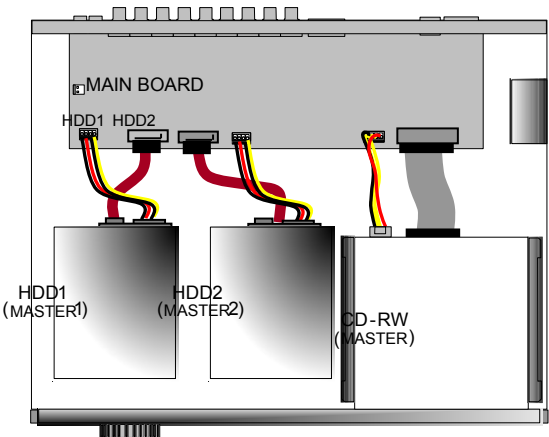
[4ch] HDD Cable Connection



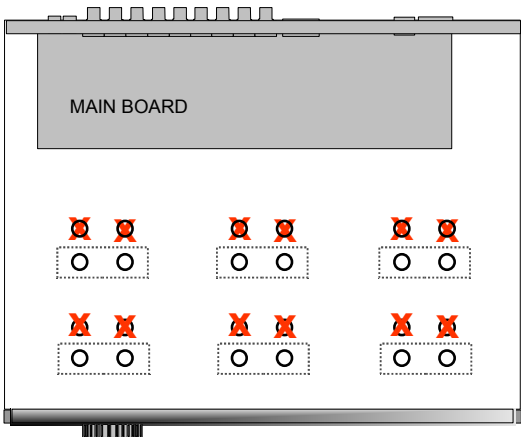
HDD Fix



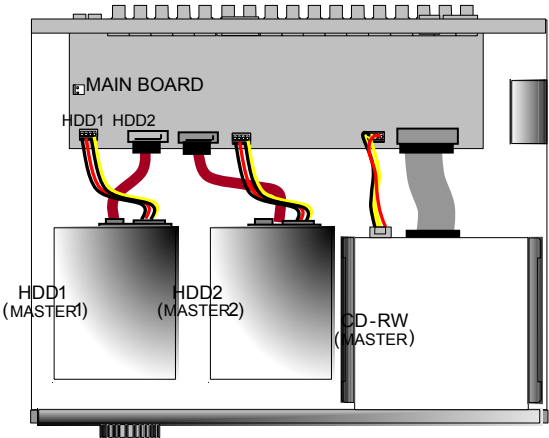
[8ch] HDD Cable Connection



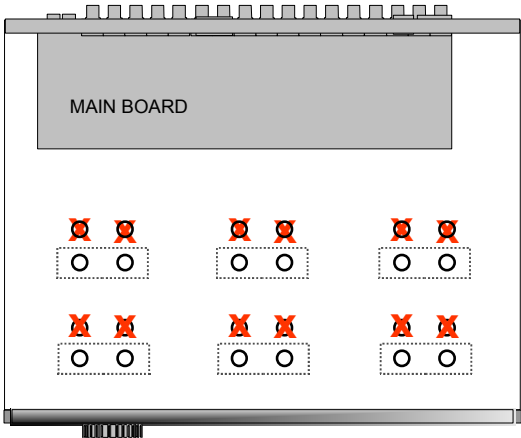
HDD Fix



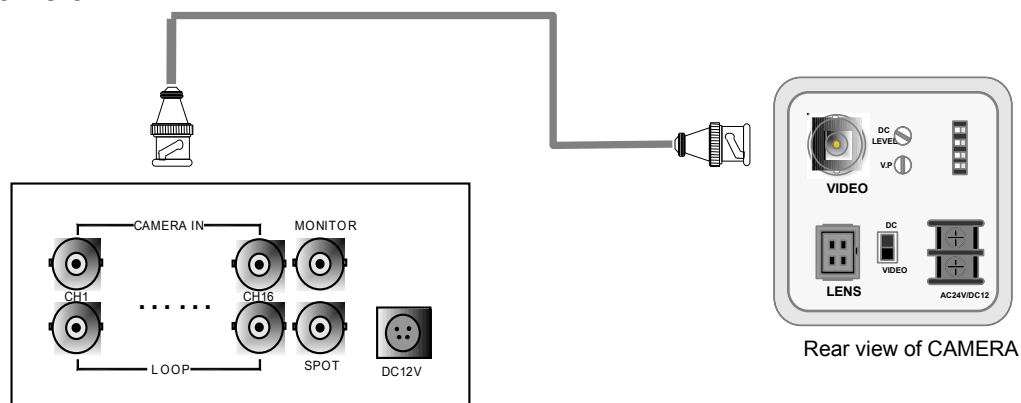
[16ch] HDD Cable Connection



HDD Fix



3) Camera



Connect cameras to the camera input on rear panel of DVR marked CAMERA IN.

4) Audio

- Audio Input

1. 4ch Audio Input is available for MSD-1600, 2ch for MSD-800, 1ch for MSD-400.
2. Connect Audio Input as needed for camera channels.
3. Audio channel 1 is assigned for camera channel 1~4, audio channel 2 for camera channel 5~8, audio channel 3 for camera channel 9~12 and audio channel 4 for camera channel 13~16.
4. Audio input should be connected according to assigned camera channels for audio recording.

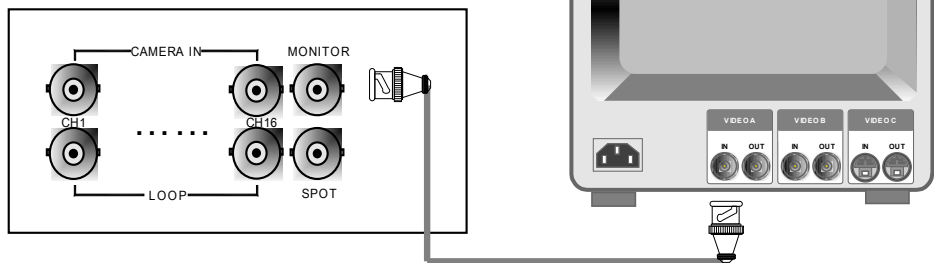
- Microphone Input

1. 1 Microphone Input is available. It does not record microphone input.
2. Microphone is to support TWO-WAY Audio, for communication with remote user.

- Audio Output

1. 1ch Audio Output is available.
2. Selected Audio channel at DVR will be output.

5) Monitor



Connect the video output marked MONITOR to VIDEO-IN of Main Monitor.

6) Power Cable

Connect DC 12V, 6.67A Adaptor to the back side of Power Jack for right operation of 2HDDs and CD Recorder.



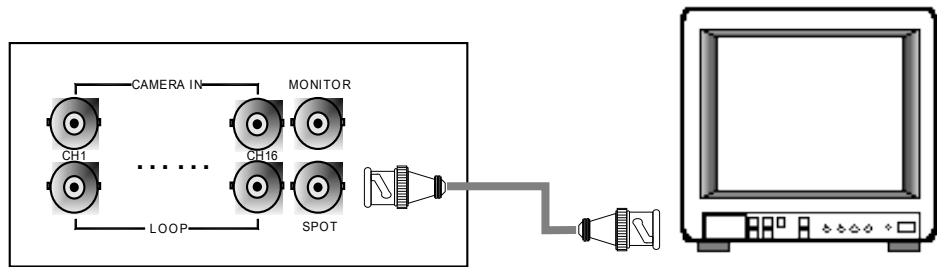
Before turning on, be sure all necessary devices such as Power adaptor, cameras and Monitor are connected properly to DVR!



Notice

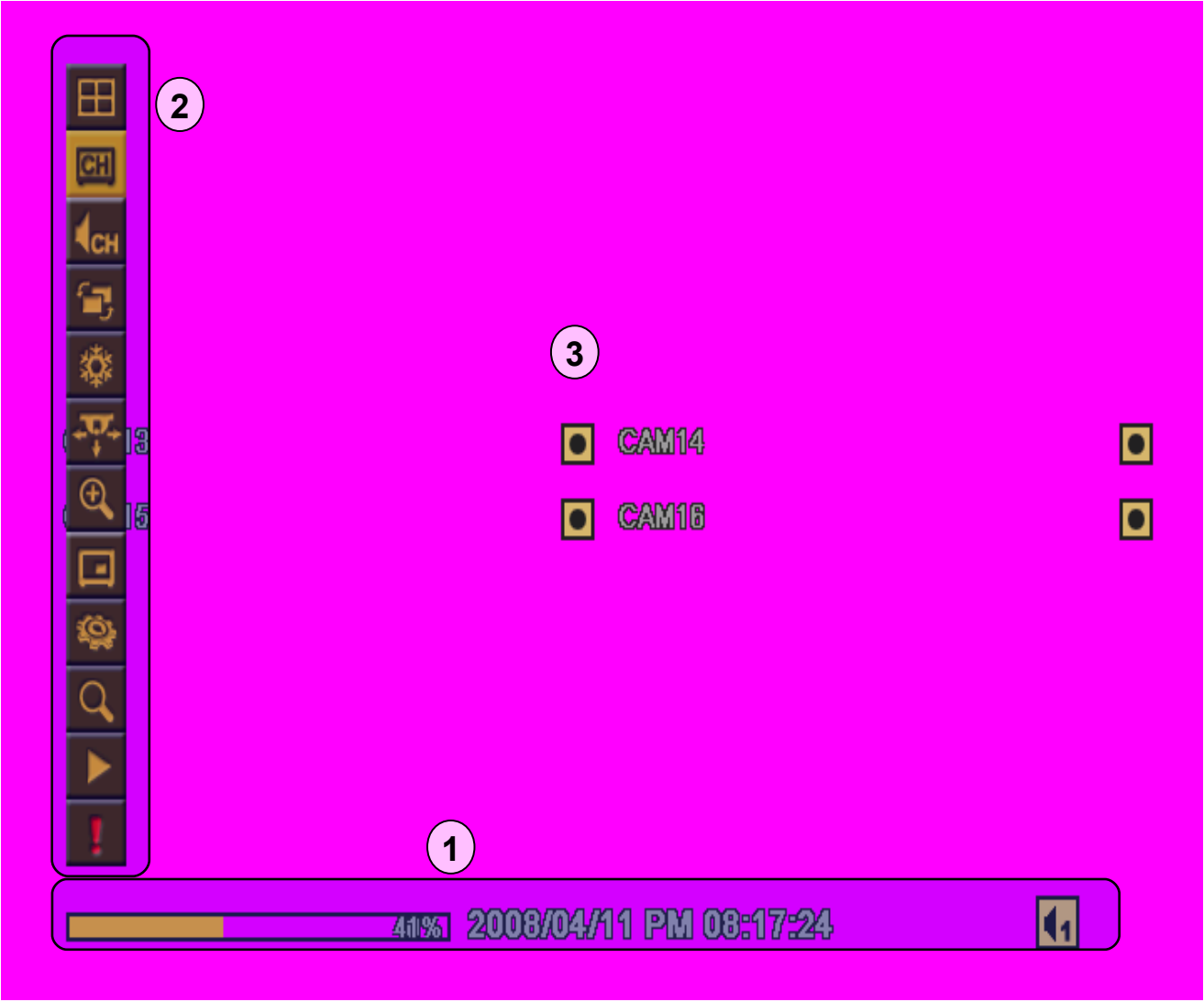
To avoid accidental deletion of HDD data, please make sure to press MENU button before powering off the unit. This takes the unit out of recording mode for safe shutdown.

7) SPOT



Connection with the spot monitor as needed.

4. Display Configuration



No	Contents	Description
1	Display	Display Date/Time, HDD Status, HDD recorded space, available remaining days, and audio channel
2	Main Menu	Click with mouse : SPLIT, CHANNEL, AUDIO, FRZ, SEQ, ZOOM, PIP, PTZ, SETUP, PANIC, PLAY, SEARCH
3	LIVE	Live screen of each channel Camera Title & Status

4-1. Display

1) Date/Time

Live mode : shows the current date & time

Playback mode : shows the recorded date & time of the playback image

2) AUDIO Icon

The number in the icon indicates which Audio channel is on.

In case Audio channel 1 is ON,  appears.

3) Record Icon

Displays the current recording mode.

In case of Continuous Recording Mode,  appears.

4) HDD Overwrite

 appears when the HDD overwrite mode is selected.

5) HDD Space

The HDD recorded space is marked in red on the time bar.

The available remaining days/time at the current record mode is also displayed.

4-2. Main Menu

1) Split Screen

Screen division panels display various screen viewing options:

 Full screen mode : Channel Bar pops up

 9 Channels Split

 4 Channels Split

 16 Channels Split

2) Display Channel Selection

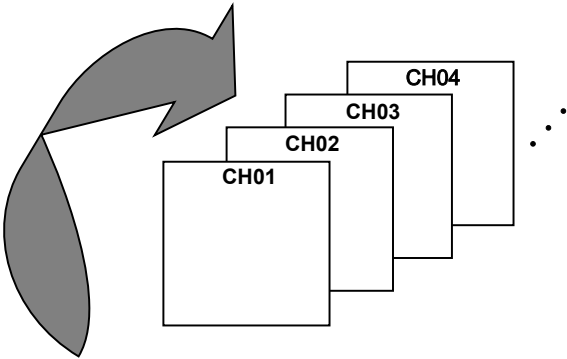
Display Channel Selection Panel views, and selected channel displays in full screen mode.
(Channels are also selectable in ZOOM, PTZ, and FREEZE mode.)

3) AUDIO Channel Selection

Audio Channel Selection Panel controls.
(1ch output for 4ch DVR, 2ch output for 8ch DVR, 4ch output for 16ch DVR)

4) SEQ (Sequence)

Displays full screen mode images in sequence
In case of 4 Split, 1,2,3,4 -> 5,6,7,8 -> 9,10,11,12..... images sequenced.

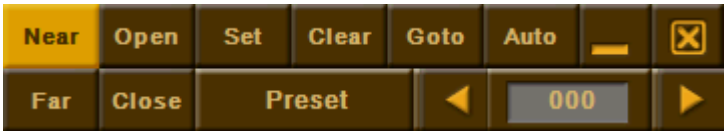


5) FRZ (Freeze)

Click FRZ to pause with  icon.
Click each channel to pause with  icon.

6) PTZ (PAN/ TILT/ ZOOM)

Click the PTZ button, and the PTZ Controller panel will pop up as shown below.

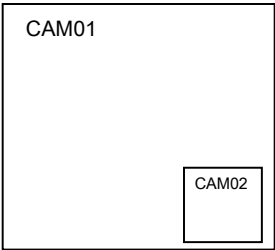


OPEN	IRIS OPEN	SET	PRESET SET
CLOSE	IRIS CLOSE	CLEAR	PRESET CLEAR
WIDE	ZOOM OUT	GOTO	PRESET GO TO
TELE	ZOOM IN	AUTO	AUTO SCAN
NEAR	FOCUS NEAR	Arrow	PAN / TILT
FAR	FOCUS FAR	No.	PRESET No.

7) ZOOM

In LIVE mode, images Zoom in X2.
Move selected frame by mouse control.
Click ESC to exit zoom mode.

8) PIP



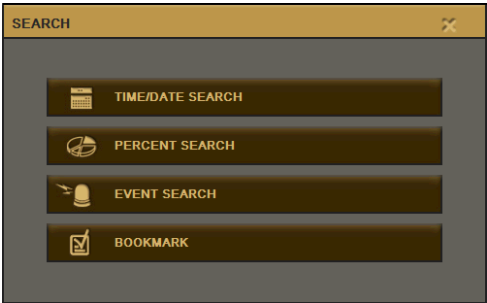
One channel displays on the full monitor screen while another small screen displays on the inset window.

- Small screen can display in sequence according to preset interval.
- Full screen can be shifted to next channel by clicking the full screen or by clicking the channel number.

9) Setup

Click SETUP button to go to the setup menu.
(See Chapter 6 for more details.)

10) SEARCH



Its function is to search the recorded data easily and to playback.
Search by Time/Date, Percentage of HDD availability, Event, and Bookmark list search available.

(See Chapter 4-5 for more detailed instruction)

11) PLAY

While in LIVE mode, click the PLAY button and it will playback recorded images.
The Control Panel pops up and assists in flexible playback operation: play forward/reverse, previous/next, fast forward/reverse, and pause.



13) Panic Recording

In case of an emergency, click the Panic Record icon to activate the panic recording.

 appears and it starts recording at continuous mode at highest quality.

(See Chapter 4-4 for more details)

4-3. Record, Playback Toolbar



No	Function	Details	No	Function	Details
1	Move to Beginning	Move to Beginning of Recording and Playback	7	Decrease Playback Speed	In fast playback : decrease playback speed. In pause : it plays back frame by frame
2	Increase Playback Speed	In reverse playback : Increase playback speed	8	Increase Playback Speed	In forward playback : Increase playback speed
3	Decrease Playback Speed	In fast playback : decrease playback speed. In pause : it plays back frame by frame	9	Move to End	Move to the end of recording and stop
4	Reverse Playback	Playback in Reverse Direction	10	BOOKMARK	Check and save bookmark point while playback
5	Pause	Pause Playback	11	EXIT	Exit Playback Mode.
6	Playback	Playback			

4-4. Panic Recording

1) Schedule recording & Emergency recording

Default setting is Schedule recording: continuous recording mode.
In case of emergency, click the Emergency Record button and it **begins** recording at highest quality level. (Record LED lights on DVR)



Panic Recording : Records at the highest quality on a continuous recording mode.



Schedule Mode : Records according to the recording settings in the RECORD SETUP & SCHEDULE SETUP menu.

To return to Schedule Recording mode, click 'STOP' button.

2) When the system does not record:

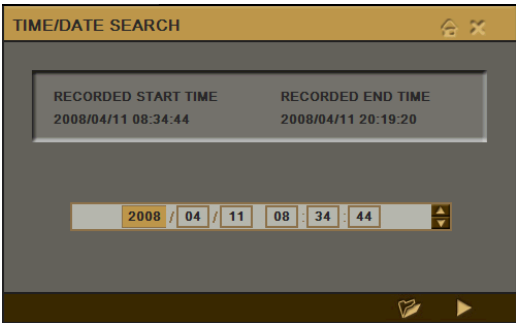
- when cameras are NOT connected.
- when the HDD is full and the overwrite mode is not selected.
- when factory the default and the HDD clear function was not run before recording.
- when in Schedule recording mode and it is set not to record at the time.

4-5. SEARCH

Searching is available in 3 different methods.

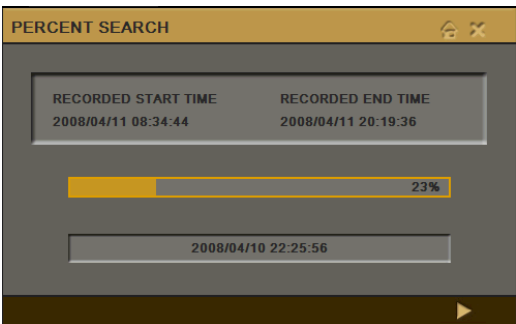
Click  button, and search window will popup as below:

1) Search by Date/Time



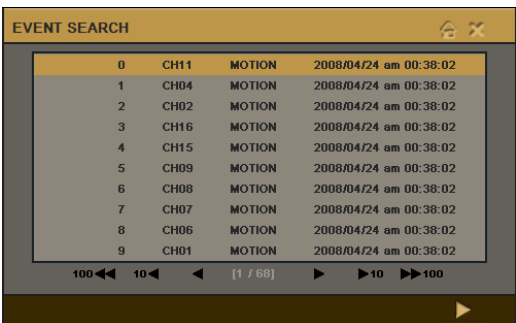
- Search by Time and Date as entered. You can change the target Date/Time values by clicking “+” and “-”.

2) Search by Percentage of HDD



- Search by Percentage of HDD
Search by Percentage of total recorded data on HDD. You can change the target Date/Time values by clicking “+” and “-” or anywhere in the percent search bar.
It starts playback from the selected Date/Time or from the point marked on the percent search bar.

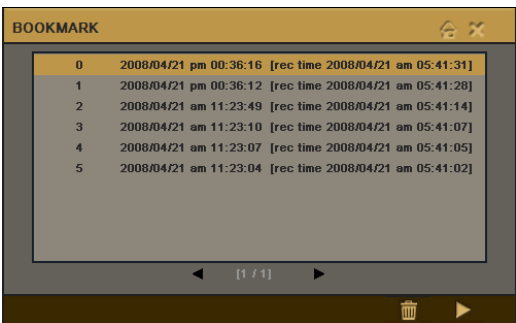
3) Search by Event List



- Search by event list which tracks Motion Detection, Alarm Input, and/or Video Loss.

Select any event shown on the list first and click “PLAY” button to play it. Playback will start from the beginning of the selected event.

4) Search by BOOKMARK List



- Search by bookmark list.

While in playback mode, if you want to remember a certain point of the recorded data, press the “BOOKMARK” button and the time and date will be added to the bookmark list.
Select any recorded data on the bookmark list and click the “PLAY” button to play.

4-6. PTZ Control

Push [PTZ] button on the DVR to activate the PTZ mode.

Button	Description	Button	Description
1 / NEAR	FOCUS NEAR	10 / PRESET+	PRESET No. +
2 / FAR	FOCUS FAR	11 / PTZ MENU	PTZ MENU
3 / WIDE	ZOOM OUT	12 / F1 ~ 13 / F5	Function
4 / TELE	ZOOM IN	UP	TILT UP
5 / SET	PRESET SET	DOWN	TILT DOWN
6 / CLEAR	PRESET CLEAR	LEFT	PAN LEFT
7 / GOTO	PRESET GOTO	RIGHT	PAN RIGHT
8 / AUTO	AUTO SCAN	+ -	Select Channel
9 / PRESET-	PRESET No. -		

4-7. CD/DVD Backup

Please Login and click “BACKUP/UPGRADE” icon and click “USB BACKUP” button.

1. Insert an empty CD-R media into CD writer and select time and date you want to begin backup.
(Start & End time and date in HDD sub-menu is not editable. It only shows the start and end time and date of total recorded data.)
2. After selecting Start time and date, select BACKUP SIZE, and it will display the end time.
The End time and date will be calculated automatically as per start time and the selected backup data size. (To backup in several CDs, set size in SPLIT TO FILE)
3. Click BACKUP START to start backup.
4. When the burning process is completed, the CD-RW will open automatically, and the start time will be set automatically to the end time of burned data for continuous backup process. The End time will be calculated automatically as per the selected backup data size in previous backup.
To continue backup, insert new CD-R media and repeat above procedure.
To stop backup, click MENU button or close the window.
5. Install BACKUP CD PLAYER with the CD included in the accessory pack. Playback of the recorded data is available now. (See Chapter 6-7 for more information)

4-8. USB Backup

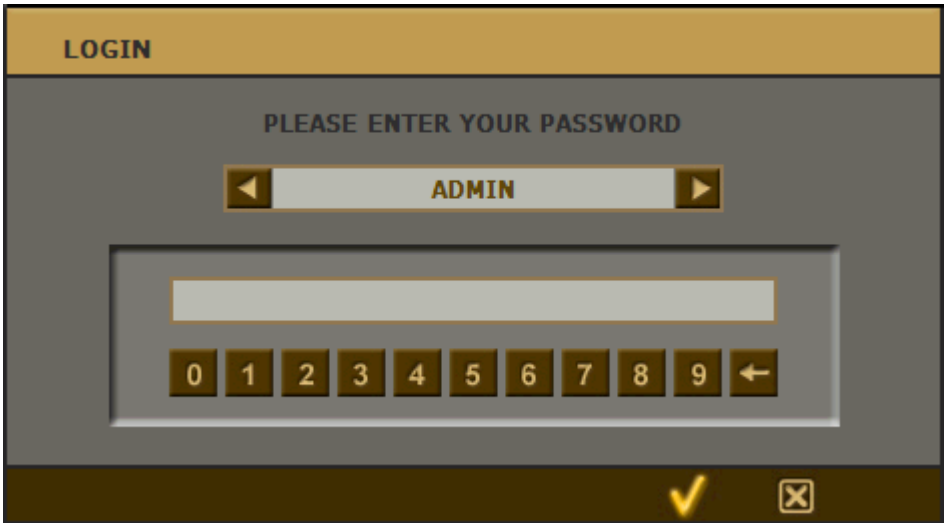
Please Login and click “BACKUP/UPGRADE” icon and click “USB BACKUP” button.

1. Insert the USB memory stick on the USB port of the DVR and select the time and date you want to begin backup. (* Start & End time and date in HDD sub-menu is not editable. It only shows the start and end time and date of total recorded data.)
2. After selecting the Start time and date, select BACKUP SIZE, and it will show end time.
The End time and date will be calculated automatically as per the start time and the selected backup data size.
3. Click BACKUP START to start backup.
4. When the backup process is completed, the start time will be set automatically to the end time of backup data for continuous backup process. The end time will be calculated automatically as per selected backup data size in previous backup.
5. Install BACKUP CD PLAYER with the CD included in the accessory pack.
Playback of the recorded data is available now. (See Chapter 6-7 for more information)

5. Operation

5-1. System Login

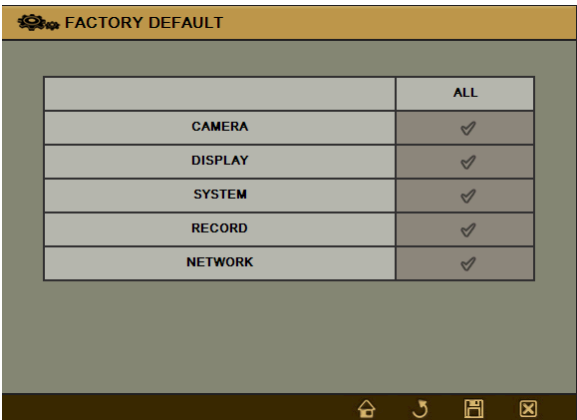
1) To enter system menu, press the MENU button.



Select the user name, input the password and click the OK button.

5-2. Factory Default

* Check if all channels are being displayed properly before the first operation. Log into the Main Menu and set Time/Date and run factory default and clear HDD. ** Starting recording without factory default and clear HDD may cause a malfunction.

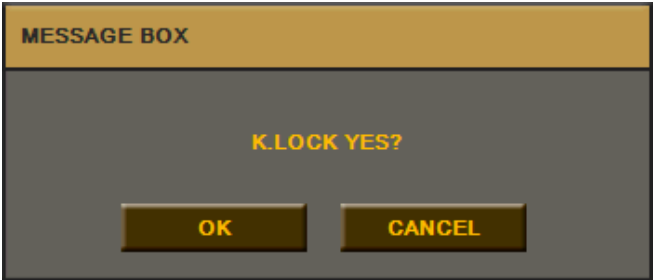


(See chapter 5-2)



(See chapter 6-6)

5-3. KEY LOCK

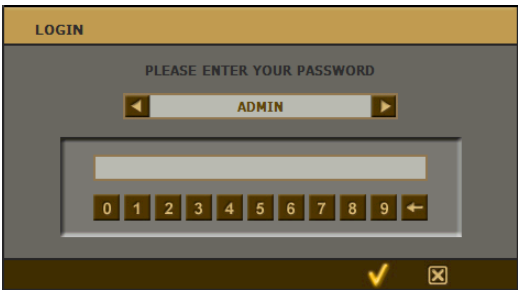


Press K.LOCK button for several seconds and then the message appears to confirm. If you click “OK”, it will lock all the key function of DVR.



appears on the screen while DVR is under the Key Lock mode.

To unlock, press K.LOCK button for several second and then input the password (same as system password)



5-4. Playback

1) Playback, Jog / Shuttle Function

Click the playback button, the recorded data on HDD will begin playback at X1 speed. Click the backward playback button, It will being to play backwards. Use the Jog/Shuttle to pause, lower speed or Increase speed playback and pause.

Press the ‘J.SHUTTLE’ button to activate the Jog/Shuttle, the LED will blink when it is available. To operate the Jog/Shuttle, turning the control knob to the right will control fast-forward playback, turning the control to the left, will control its reverse playback. Jog/shuttle will control one camera at a time. Shuttle speeds are shown below.

1/2, 1/4, 1/8, 1/16 : The speed is lower than Normal Playback speed. 1X : Normal playback speed. 2, 4, 8, 32 : The speed is faster than Normal Playback speed.

2) BOOKMARK Function

While in playback mode, if you want to remember a certain point of the recorded data, press “BOOKMARK” Button or click the icon. And then the time and date will be added to the bookmark list.

6. DVR Setup

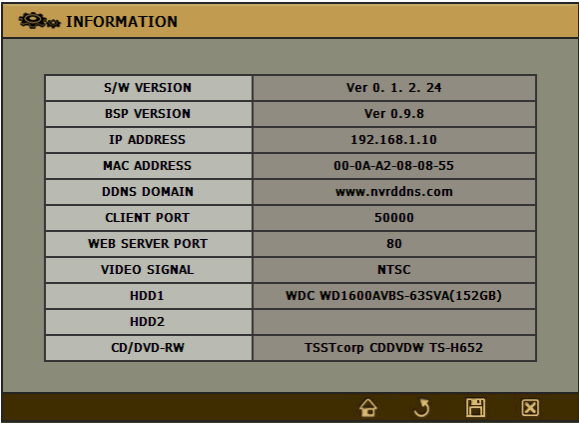
6-1. General Operation



SETUP GROUP	GROUP CONTENTS
SYSTEM	INFORMATION, UPGRADE, USER AUTHORITY, PASSWORD, BUZZER AUDIO, REMOTE CONTROL, FACTORY DEFAULT
DISPLAY	DATE/TIME, DISPLAY SETUP, VGA, INTERVAL, LANGUAGE
RECORD	RECORD SETUP, MOTION, SCHEDULE, HOLIDAY
CAMERA	CAMERA TITLE, COLOR ADJUSTMENT, ACTIVATION, ALARM PTZ SETUP, PTZ SPEED, EVENT POPUP
DEVICE	CLEAR HDD, CD/DVD BACKUP, USB BACKUP, RS-232C
NETWORK	ETHERNET, DDNS, PPPoE

6-2. SYSTEM Setup

1) INFORMATION

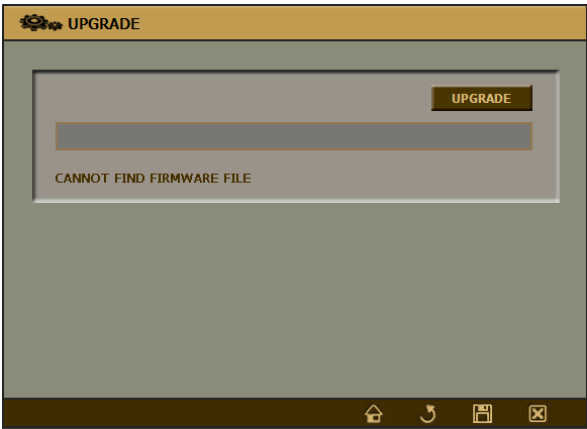


S/W VERSION	Ver 0. 1. 2. 24
BSP VERSION	Ver 0.9.8
IP ADDRESS	192.168.1.10
MAC ADDRESS	00-0A-A2-08-08-55
DDNS DOMAIN	www.nvrddns.com
CLIENT PORT	50000
WEB SERVER PORT	80
VIDEO SIGNAL	NTSC
HDD1	WDC WD1600AVBS-63SVA(152GB)
HDD2	
CD/DVD-RW	TSSTcorp CDDVDW TS-H652

To display the System Information

- Click ‘SAVE’ or ‘EXIT’ to exit.

2) UPGRADE



To access the Menu for a USB Upgrade.

- Insert an USB memory stick which has the firmware (to be upgraded) into the USB port on the front.
- Go to “UPGRADE” and then it will automatically detect the USB memory stick.
- Click “START” to start upgrading.

3) USER AUTHORITY

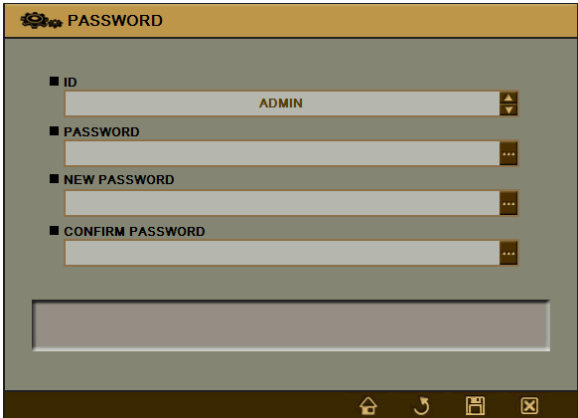


	MANAGER	USER
SYSTEM	☒	☒
DISPLAY	☒	☒
RECORD	☒	☒
CAMERA	☒	☒
DEVICE	☒	☒
NETWORK	☒	☒
SEARCH	☒	☒

To Set the Authority level of each user.

- Review the checkbox of contents for MANAGER & USER menu. The corresponding user grade will have authority to access the setting Menu as checked.
- Click OK to save this setting.
- Click DEFAULT to return to the original setting.

4) PASSWORD

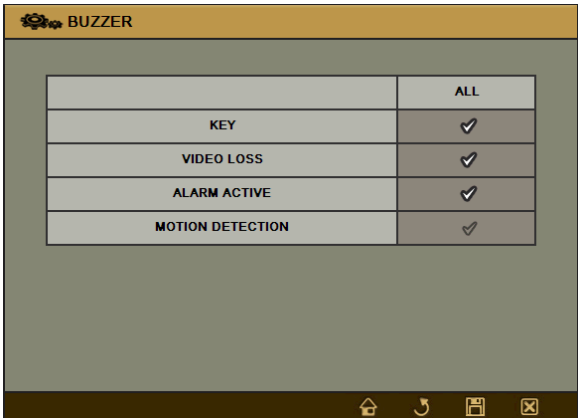


To Program the Password for each user level.

Select user level, and set USER PASSWORD.
Set different passwords for different user levels.

Click OK to save the setting.
Click CANCEL to cancel.

5) BUZZER



To Program the parameters for the buzzer (On/Off).

Review checkbox for events that will activate the buzzer.

- KEY : when button on the key panel is clicked or pressed.
- VIDEO LOSS : when video signal is lost.
- ALARM ACTIVE : when alarm is activated.
- MOTION DETECT : motion is detected.

- Click OK to save this setting.
- Click DEFAULT to return to the original setting.

6) AUDIO



To set the audio output volume.

•AUDIO VOLUME : Set the output volume for each channel.

- Click OK to save this setting.
- Click DEFAULT to return to the original setting.

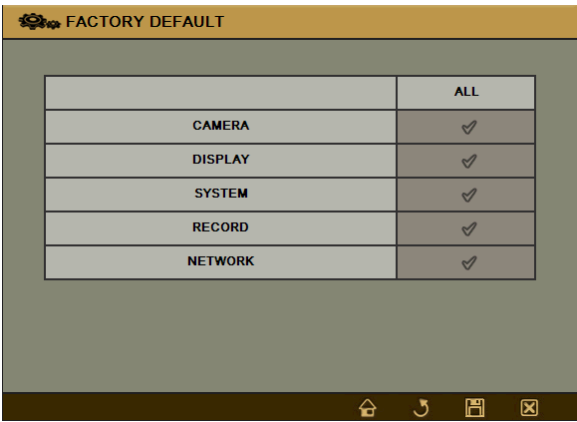
7) REMOTE CONTROL



To Set the Remote Controller for DVR.

- The DVR can be controlled remotely with IR remote controller (Included).
- Setup for number of remote control available (All, 1~6).
- Click OK to save this setting.
- Click DEFAULT to return to the original setting.
-

8) FACTORY DEFAULT

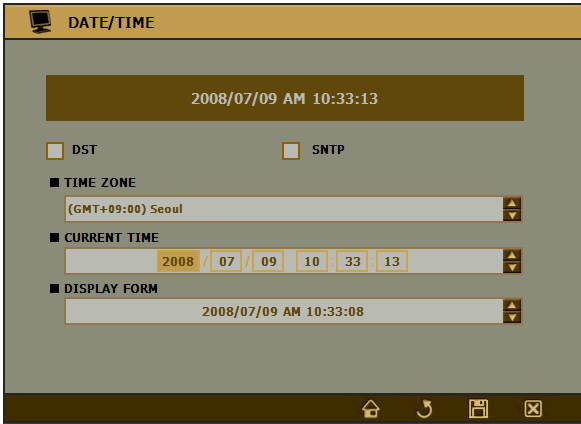


To re-set the DVR back to the original manufactures specifications or Factory Default .

- Review the checkbox of contents to reset.
- Click OK to run factory default.
- Click CANCEL to return to initial setting.

6-3 DISPLAY Setup

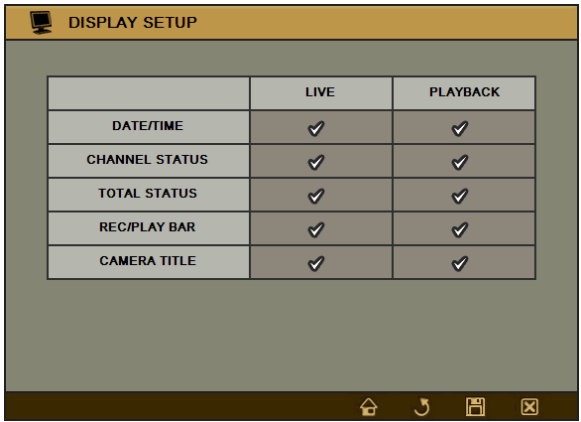
1) DATE/TIME



To set time and date of DVR system.

- Set the time and date by selecting your TIME ZONE.
- Set the Time Display Format.
- Check checkbox DAYLIGHT for Saving Time mode.
- (DST)
- Click OK to save this setting.
- Click DEFAULT to return to the original setting.

2) DISPLAY SETUP



Review the checkbox of contents to be displayed on Live and Playback screen.

- DATE/TIME : Current time / Record time
- ICON STATUS : LIVE status icon
- DVR STATUS : DVR status icon
- REC/PLAY BAR : HDD Bar
- CAMERA TITLE : Camera Title
- Click OK to save this setting.
- Click DEFAULT to return to the original setting.

3) VGA



To Program the VGA OUT.

- VGA : Connection ON/OFF.
- RESOLUTION : Set Resolution
- FREQUENCY : 60Hz, 75Hz
- Click OK to save this setting.
- Click DEFAULT to return to the original setting.

4) INTERVAL

■ SWITCHING INTERVAL(SEC)

SEQUENCE5

PIP5

SPOT MONITOR5

■ EVENT RECORD(SEC)

EVENT UPDATE TIME40

To set the interval for channel sequencing.

- SEQUENCE : Camera channel time interval.
- PIP : PIP channel sequencing time interval.
- SPOT MONITOR : SPOT MONITOR sequencing time interval.
- EVENT UPDATE TIME : EVENT update interval.
- Click OK to save this setting.
- Click DEFAULT to return to the original setting.

5) LANGUAGE

LANGUAGE

ENGLISH	Русский
Português	Turkish
ESPAÑOL	FRENCH
Dutch	FINNISH
Deutsch	한국어
ITALIANO	日本語
ČESKY	繁体中文
POLSKI	繁體中文

To select language.

- Click “OK” to save the setting.

6-4 RECORD Setup

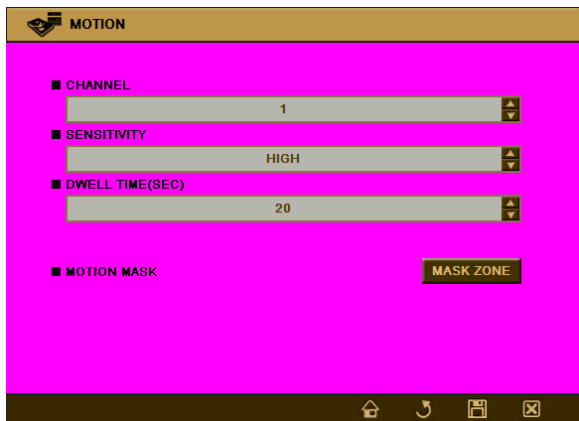
1) RECORD SETUP



To set the recorder configuration.

- CHANNEL: Channels of the 4-camera groups.
- QUALITY : Recording quality of the selected channels of 4-camera group.
- FPS : Frames per second
- Pre Alarm : Record data 0~5 seconds before the alarm occurs
- *Notice : In case of sudden power off while in Pre-Alarm mode, up to 5 seconds of data loss may occur.
- Click OK to save this setting.
- Click DEFAULT to return to the original setting.

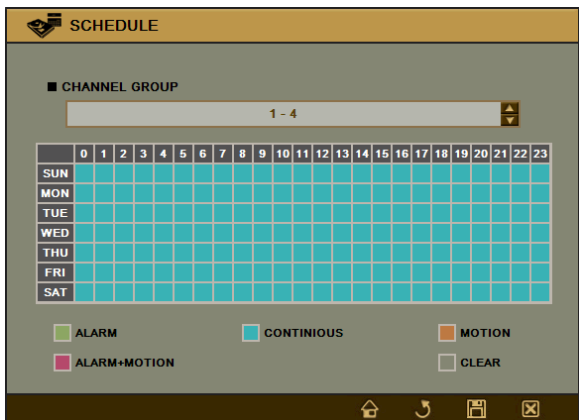
2) MOTION



The Menu for DVR Motion Detection Programming.

- Select CHANNEL
- SENSITIVITY : sensitivity LOW ~ VERY HIGH
- MOTION DURATION: The time duration of motion detection.
- MASK ZONE : Click MASK ZONE to select or clear blocks.
- Click OK to save this setting.
- Click DEFAULT to return to the original setting.

3) SCHEDULE



To Set the Schedule Recording Mode.

- Appoint Schedule recording by Day and Hour.
- MOTION, ALARM, MOTION+ALARM or CONTINUOUS recording mode selectable.
- Note: In case of emergency, click the Panic button which will start recording at CONTINUOUS MODE at the highest resolution. Unless otherwise specified, it records according to this Schedule Record Setup.
- Click OK to save this setting.
- Click DEFAULT to return to the original setting

4) HOLIDAY



To set the Holiday Schedule: Setting national holidays, weekly security hours or custom holidays on the calendar to record.

- Set date on SET HOLIDAY and click ⇒, and set date will be listed on HOLIDAY LIST.
- It will record as setting for Sunday in Schedule Record Setup.
- Click OK to save this setting.
- Click DEFAULT to return to the original setting.

6-5. CAMERA Setup

1) CAMERA TITLE

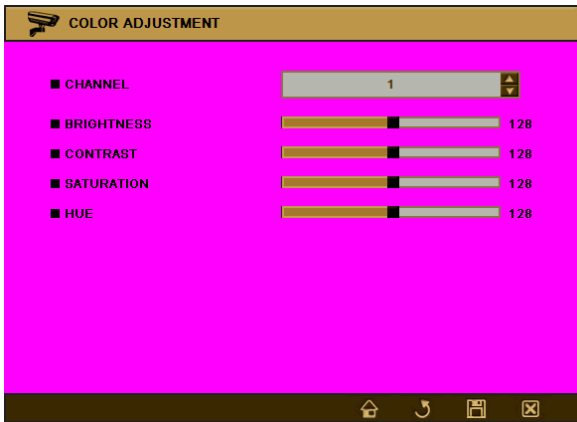


Programming the title of each camera.

Left click any place one the screen.
Then, the virtual keyboard panel pops up.
Enter title and click ENTER.

- Click OK to save the setting.
- Click DEFAULT to cancel.

2) COLOR ADJUSTMENT



To Adjust the Camera Image Color.

- BRIGHTNESS : 0 ~ 255
 - CONTRAST : 0 ~ 255
 - SATURATION : 0 ~ 255
 - HUE : 0 ~ 255
- Click OK to save this setting.
•Click DEFAULT to return to the original setting.

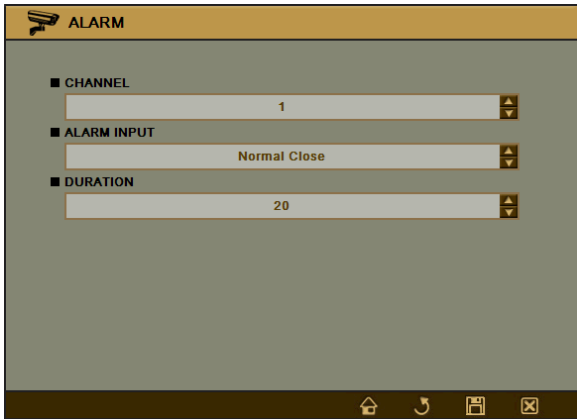
3) ACTIVATION



To set the Camera Activation.

- STATUS : Camera type: NTSC/PAL/LOSS.
 - COVERT : Check the checkbox of camera channel not to display.
 - REC : Check checkbox of camera channel to Record.
- Click OK to save this setting.
•Click DEFAULT to return to the original setting.

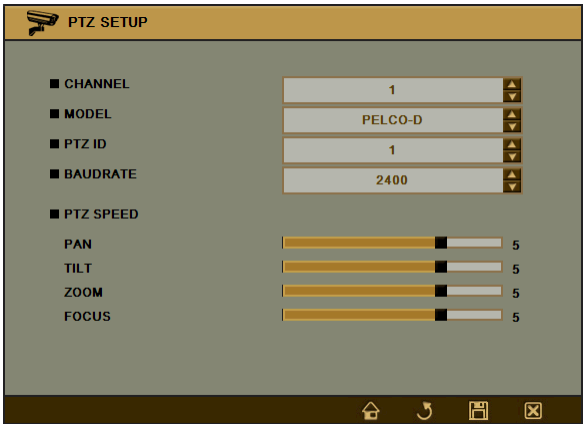
4) ALARM



To program an alarm sensor connected to DVR.

- Set input type and dwell time for each channel.
- Select between N.O. and N.C. (Normal Open : NO, Normal Close : N.C.)
- Click OK to save this setting.
- Click DEFAULT to return to the original setting.

5) PTZ SETUP

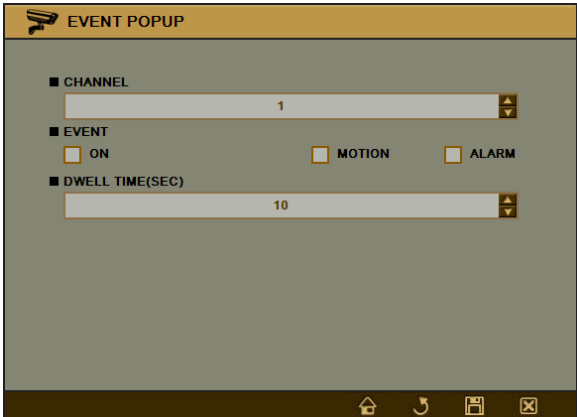


To Program a PTZ Camera.

- CHANNEL : Selection connected PTZ
- PROTOCOL : Selection Camera Model
- ID: ID Value for PTZ Camera
- BAUD RATE : PTZ SIGNAL Transmit rate
- PAN : Horizontal movement Speed
- TILT : Vertical movement Speed
- ZOOM : Zoom In/Out Speed
- FOCUS : Focus Near/Far Speed

- Click OK to save this setting.
- Click DEFAULT to return to the original setting.

6) EVENT POPUP



To Program an Event Popup.

- Select the camera channel
- Select POPUP On or Off
- EVENT : Check the checkbox of MOTION and/or ALARM
- Dwell Time : The period of time for the popup in case of Event.
- Click OK to save this setting.
- Click DEFAULT to return to the original setting

6-6. DEVICE Setup

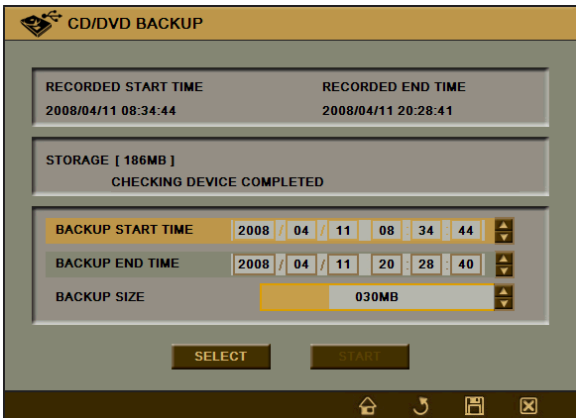
1) CLEAR HDD



The Menu to erase /clear the HDD.

- Displays starting time and the ending time of the currently saved data on HDD.
- After pressing the 'START' button, account, and password of DVR, an input window pop up.
- Then, after inputting the number, the HDD changes to the CLEAR Status.
- OVERWRITE : When HDD is full, the DVR automatically overwrites from the beginning of HDD.
- Click OK to SAVE and EXIT or CANCEL to EXIT.

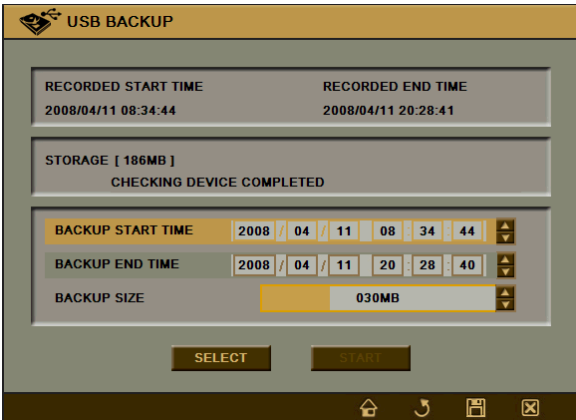
2) CD/DVD BACKUP



How to Backup via CD/DVD-RW.

- Review the Display Start & End time of total recorded data on HDD which is displayed at the top screen.
- Input the date/time of data you wish to backup and click the SELECT button to check total backup data file size.
- If total backup data size is bigger than CD/DVD storage, the End time will be determined automatically.
- Click START to start backup.

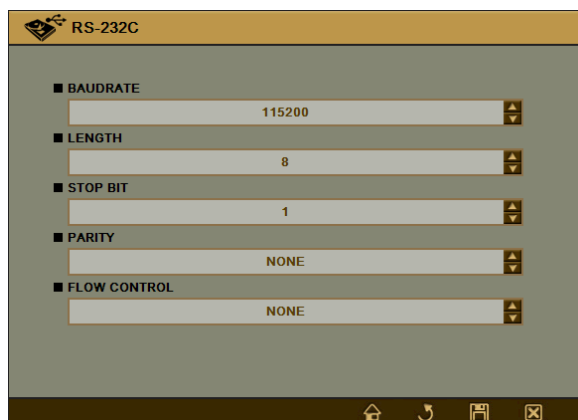
3) USB BACKUP



How to Backup via USB.

- Review the Display Start & End time of total recorded data on HDD which is displayed at the top screen.
- Input the date/time of data you wish to backup and click the SELECT button to check total backup data file size.
- If total backup data size is bigger than USB storage device, the End time will be determined automatically.
- the Backup data file size is adjustable to USB storage size.
- Click START to start backup.

4) RS-232C



The screenshot shows a software interface for configuring the RS-232C port. The title bar at the top is orange and contains a small icon of a computer and the text "RS-232C". The main area has a grey background and contains five settings, each with a label, a text input field, and a small up/down arrow icon on the right. The settings are: BAUDRATE (115200), LENGTH (8), STOP BIT (1), PARITY (NONE), and FLOW CONTROL (NONE). At the bottom of the window is a dark brown bar with four icons: a home icon, a refresh icon, a save icon, and a close icon.

Setting	Value
BAUDRATE	115200
LENGTH	8
STOP BIT	1
PARITY	NONE
FLOW CONTROL	NONE

To program the settings for the RS-232C port.

- BAUD RATE : 2400 ~ 115200
- LENGTH : 5 ~ 8
- STOP BIT : 1 ~ 2
- PARITY : NONE, ODD OVEN
- FLOW CONTROL : NONE, SOFTWARE, HARDWARE

- Click OK to save this setting.
- Click DEFAULT to return to the original setting.

6-7. NETWORK Setup

1) ETHERNET

ETHERNET

☒ DYNAMIC IP REQUEST

☐ STATIC IP

■ IP ADDRESS 192.168.1.5

■ PORT 50000

■ GATEWAY 192.168.1.1

■ SUBNET MASK 255.255.255.0

■ STANDARD DNS SERVER 168.126.63.1

To Setup the DVR Network.

- DYNAMIC IP : Check checkbox to enable connection via Cable Modem with Dynamic IP.
- STATIC IP : Check checkbox to enable connection via Stable IP

Click OK to save the settings.
Click EXIT to cancel.

(Refer to Chapter 7-1 for more details)

2) DDNS

DDNS

☐ DDNS REQUEST

■ DDNS SERVER www.nvrddns.com

■ DVR NAME

■ INTERVAL DAY 0 HOUR 0 MIN 3

LAST UPDATE

To Program the DDNS Server Connection.

- DDNS SERVER : DDNS Server address.
- DVR NAME : Program the DVR name that it is to be registered to the server.
- INTERVAL: Program how often the DVR information is forwarding to DDNS SERVER.

•Click OK to save the settings.
•Click EXIT to cancel.

(Refer to Chapter 7-2 for more details)

3) PPPoE

PPPoE

☒ PPPoE REQUEST

■ ID

■ PASSWORD

☒ ENABLE TO RETRY

■ COUNT 20

■ INTERVAL(SEC) 10

To Program the PPPoE Connection. (In case of using local DSL) : When connecting to the local network through an external modem.

- ID: Please enter the ID which you received from the local DSL service company.
- User Password : Please enter the PW which you received from local DSL service company.
- Retry Count: Program the number of retry's it will attempt.
- Retry Interval: Program the time interval between retry attempts.

•Click OK to save this setting.
•Click DEFAULT to return to the original setting.

(Refer to Chapter 6-7, 7-1 for more details)

4) WEB GUARD

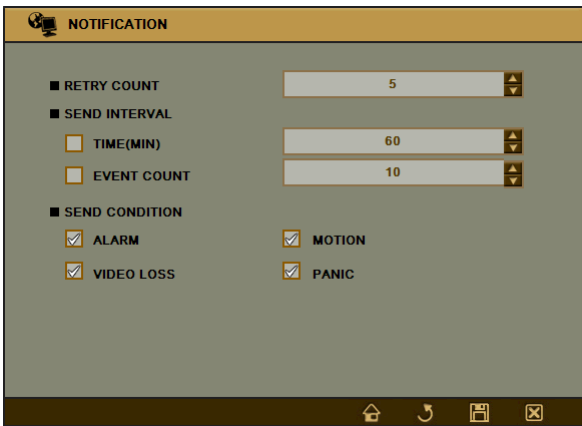


Programming the web server port

- WEB GUARD : Activate the WEB GUARD function by checking the box.
- WEB PORT : Setting web port number
- Click OK to save setting.
- Click EXIT to cancel.

(Refer to Chapter 7-4 for more details)

5) NOTIFICATION

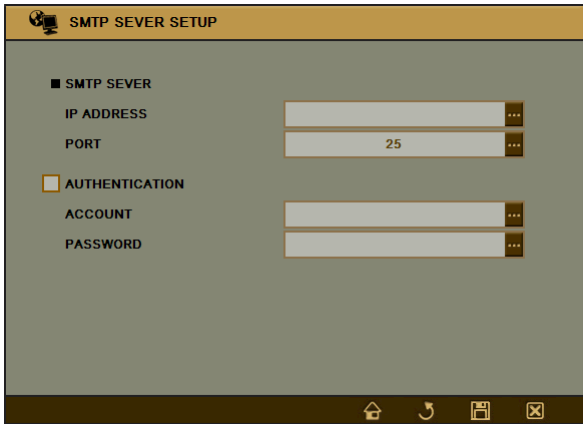


Programming the EVENT NOTIFICATION

- RETRY COUNT: Setting of retry number
- SEND INTERVAL: Setting of sending interval
 - TIME(MIN) : Sending event every setting time(min)
 - EVENT COUNT : Sending event when reaches setting count number
- SEND CONDITION : Type of Event Activation.
- Click OK to save setting
- Click EXIT to cancel

(Refer to Chapter 7-5 for more details)

6) SMTP SERVER SETUP



Programming the SMTP SERVER

- ID ADDRESS: Input the address of SMTP server.
- PORT : Input SMTP PORT
- AUTHENTICATION : Setting of authentication
- ACCOUNT : Input account number
- PASSWORD : Input password
- Click OK to save this setting.
- Click DEFAULT to return to the original setting.

(Refer to Chapter 7-5 for more details)

7) E-MAIL



To Program E-MAIL NOTIFICATION

- LOCATION : Information of mail title
- SENDER : Input address of sender
- RECIPIENT: Input e-mail address' of recipients
 - Available up to 3 persons.

(Refer to Chapter 7-7 for more details)

6-8. LANGUAGE

1) LANGUAGE



- Select language.
- Click "OK" to save setting.

7. Network Setup

7-1. DVR Network Setup

Please contact your local network service provider for information below:

- Upload Speed : to predict frame rate via network.
- Download Speed : to predict frame rate via network.
- Addressing : to determine which scenario to follow.
- Router ON Site or Just Modem : to determine which scenario to follow.

* NOTE : If the provider is using PPPoE (usually DSL providers), you MUST have a IP Share installed on site, and follow 3) Dynamic IP of PPPoE (DSL) for DVR setup and access.

* Verify if Internet accessible after installing any new equipment (routers, switches, modems, etc.)

PC's TCP/IP Setup

Fill out the information below before configuring DVR if applicable:
Choose PC connected to the network and determine its TCP/IP setting.

IP address :	_____	ex) 192.168.1.5
Subnet Mask :	_____	ex) 255.255.255.0
Default Gateway :	_____	ex) 192.168.1.1

Refer to following scenarios 1) ~ 3), and identify which scenario your current network falls within and follow instructions for configuring and accessing your DVR via TCP/IP.

1) Static IP

User input IP address assigned from ISP company in IP CONFIG SETUP.

- 1) Verify if IP address is OK with your PC before connecting DVR.
- 2) Connect static IP LAN cable to DVR after verification.
- 3) Enter into [MENU]-[NETWORK SETUP]-[IP CONFIG].
- 4) Select STABLE IP and set assigned IP address.
- 5) Input GATEWAY assigned from ISP company.
- 6) Input SUBNET MASK.
- 7) Exit MENU.
- 8) Verify if MAC address starts with 00-0A-A2....
- 9) Set IP port in CONNECTION SETUP. (50000 recommended)
- 10) Turn off Modem or Router provided by ISP company, and turn on again.
(This process is to reset client's MAC from ISP company. Wait for 30 sec after turning on.)
- 11) Access DVR with Transmitter Program.

* If access via Transmitter fails, check 1), 5), 6) & 9) again.

2) Dynamic IP of Cable Method

Select DYNAMIC IP from DVR's TCP/IP SETUP and an IP address will be assigned from ISP's DHCP server.

- 1) Verify if the IP address is OK with your PC before connecting DVR.
- 2) Connect the dynamic IP LAN cable to DVR after verification.
- 3) Turn off Modem provided by ISP company, and turn it on again.
(This process is to reset client's MAC from ISP company. Wait for 30 sec after turning it on.)
- 4) When modem functions properly, turn off DVR and turn it on again.
- 5) Enter into [MENU]-[NETWORK SETUP]-[IP CONFIG].
- 6) Select DYNAMIC IP and click refresh button.
- 7) Exit MENU.
- 8) Verify if the MAC address starts with 00-0A-A2....
- 9) Set IP port in CONNECTION SETUP. (50000 recommended)
- 10) Access the DVR with Transmitter Program.

* If access via Transmitter fails, check 1), 3) & 4) again.

3) Dynamic IP of PPPOE Method

Enter PPPOE setting in the DVR's TCP/IP SETUP

- 1) Verify if the IP address is OK with your PC before connecting the DVR.
- 2) Connect the dynamic IP LAN cable to DVR after verification.
- 3) Turn off Modem provided by ISP company, and turn on again.
(This process is to reset client's MAC from ISP company. Wait for 30 sec after turning on.)
- 4) When modem functions properly, turn off DVR and turn it on again.
- 5) Enter into [MENU]-[NETWORK SETUP]-[PPPOE].
- 6) Input the ID & PASSWORD assigned from ISP
- 7) Exit MENU.
- 8) Verify if the MAC address starts with 00-0A-A2....
- 9) Set IP port in CONNECTION SETUP. (50000 recommended)
- 10) Access the DVR with Transmitter Program.

* If access via Transmitter fails, check 1), 3) & 4) again.

7-2. DDNS

- 1. Go into [Menu] -> [NETWORK] -> [DDNS].
- 2. Click the check box of DDNS and Input the domain which you want to Register to DDNS.

 DDNS

☐ DDNS

REQUEST

■ DDNS SERVER

www.nvrddns.com

■ DVR NAME

■ INTERVAL

DAY

HOUR

MIN

LAST UPDATE

--:--:--

- 3. Click OK to request the registration.



NOTE : When entering a domain name already registered on DDNS server, an error message displays

7-3. Web Application

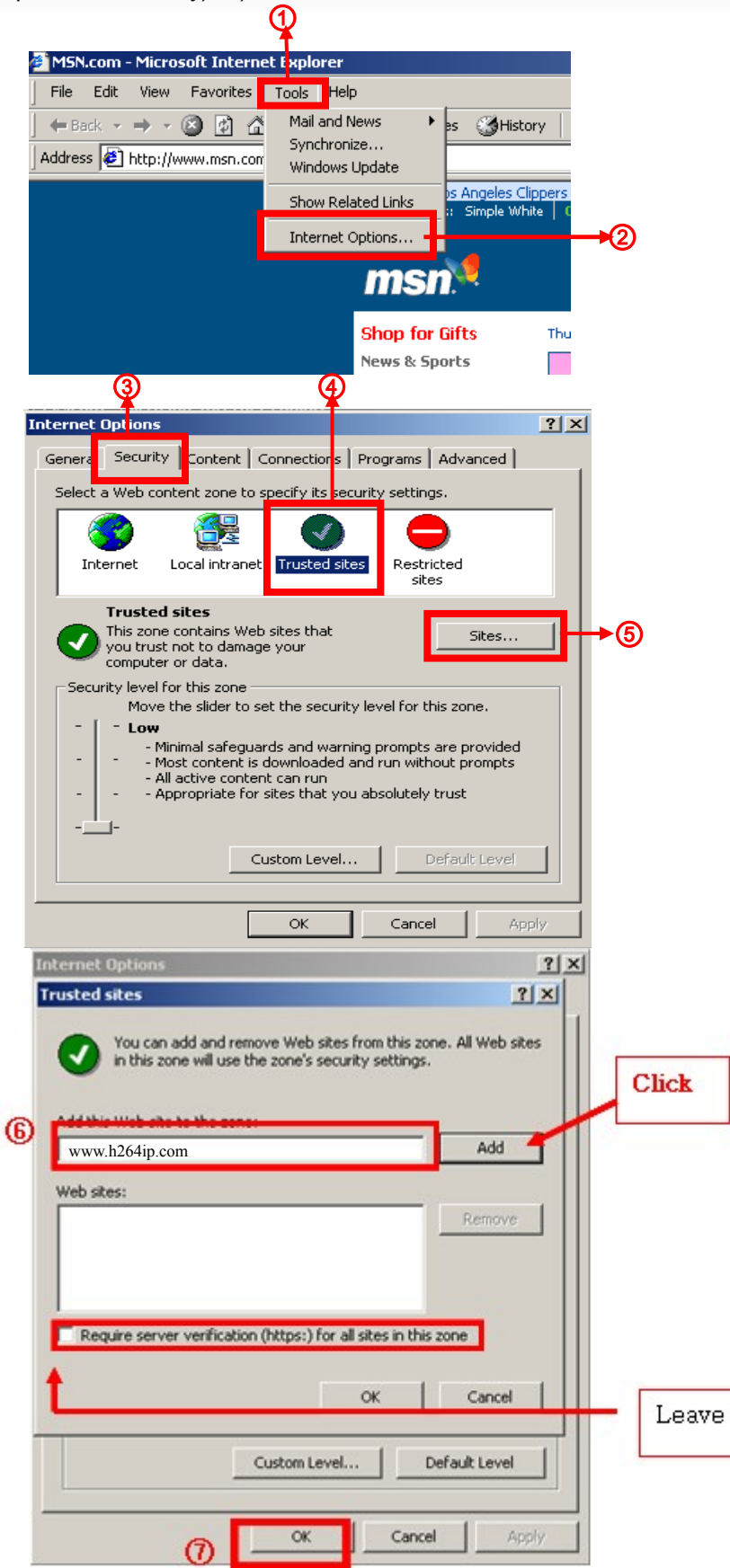
Entering the IP address of DVR or the Domain you registered on DDNS server, you can connect to the web application which support IRS (Remote Software) function.

Notice : When you firstly use web application, please click “yes” for ActiveX control installation.



- DVR SETUP** Change DVR setting remotely over network.
- BACKUP** Backup Recorded Images from DVR to PC.
- PLAYER** Playback backup data on PC.
- TRANSMITTER** Control DVR remotely as if controlling the local unit DVR.

(Notice- For security reasons, if connection is not available, change the setting of internet browser as below.
(Tools -> Internet Options -> Security)



8. Remote Viewer Program

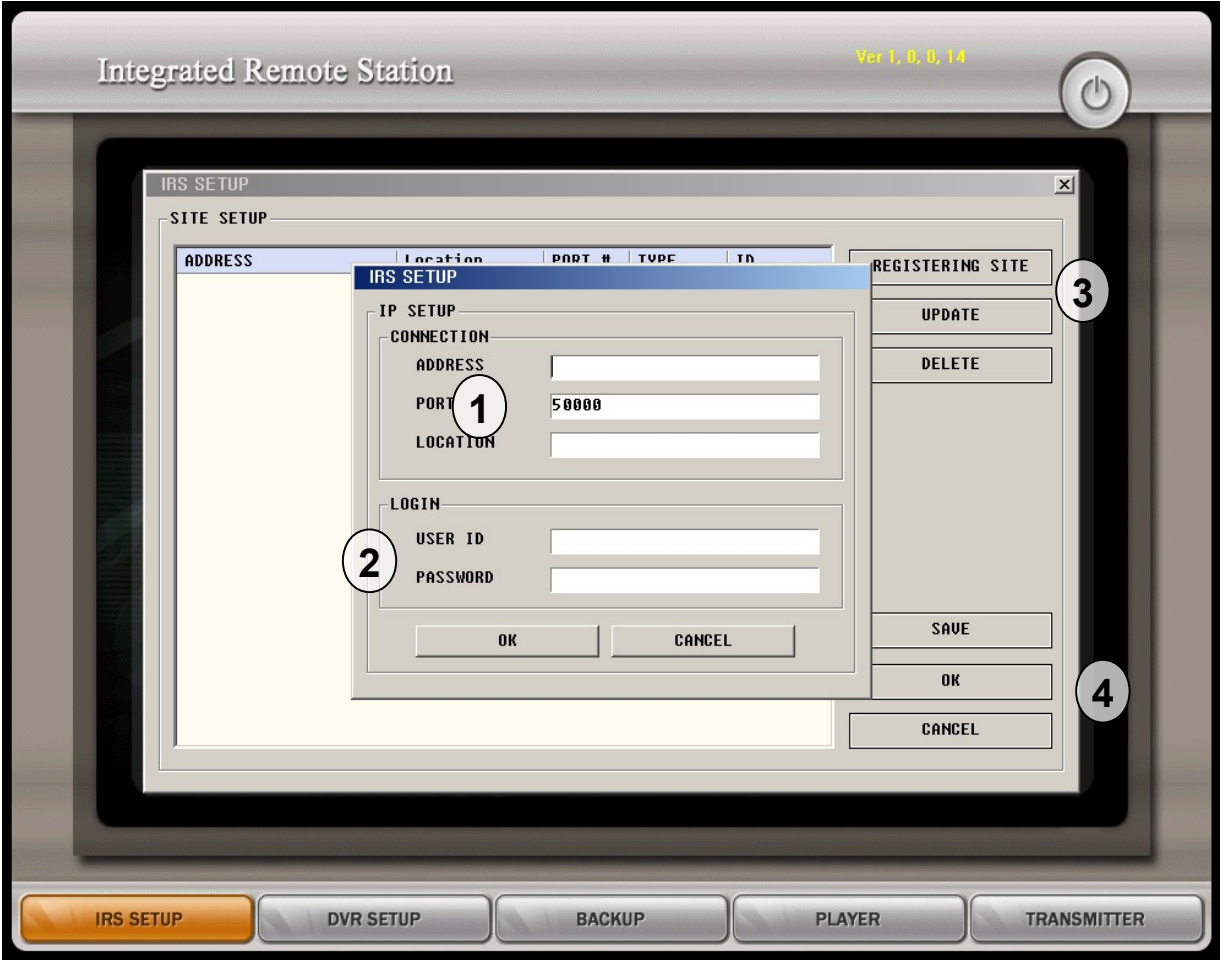
8-1. IRS Operation

1) IRS (Integrated Remote Station) Display



No.	Button	Function
1	IRS Setup	Input Information for IRS network connection.
2	DVR Setup	Change DVR setting remotely over network.
3	BACKUP	Backup Recorded Images from DVR to PC.
4	PLAYER	Playback backup data on PC.
5	TRANSMITTER	Control DVR remotely as if controlling the local unit DVR.

2) IRS Setup



No.	Button	Function
1	ADD / PORT / LOCATION	Input IP address and port number manually. Input the location of DVR
2	ID / PASS	Input ID and Password of DVR.
3	UPDATE / DELETE	Update the new setup, Delete the selected setup.
4	SAVE / OK	Save and select the sight information from the list.

3) DVR Setup

- User can change some settings of DVR remotely over network.
(Active, Camera, Alarm, Buzzer, Interval, Password, Record Configuration, Record Schedule)

Press the connect button

1

MANUAL

2

ADDRESS

192.168.1.2

3

PORT NUMBER

5000

ID

admin

PASSWORD

4

CONNECT

DISCONNECT

Ver 1, 0, 2, 11

CLOSE

No.	Button	Function
1	MANUAL	Select to input IP address and port number manually
2	DDNS / PORT	Input IP address and port number of DVR
3	ID / PASS	Input ID and password of DVR
4	CONNECT	Click to connect to DVR.

8-2. Backup Operation

1) To execute Backup, input IP Address & Port and click 'Connect Test' Button.

The screenshot shows the 'BACKUP' window with the title bar 'Ver 1. 0. 0. 1'. It is divided into two main sections: '>> Backup Information' and '>> DVR Server Information'. The 'Backup Information' section contains input fields for IP Address, Network Port (set to 80), User ID, User Password, Save File Path, Start Backup Time (0000/00/00 00:00:00), and End Backup Time (0000/00/00 00:00:00). Below these are buttons for 'CONNECT TEST', 'LOCK', 'SET BACKUP TIME', and 'START BACKUP'. The 'DVR Server Information' section has input fields for 'Recorded Start Time' and 'Recorded End Time', an 'UPDATE' button, and a '>> Backup Status' section with fields for Message, Receive Rates, Backup Rates, Receive bps, and Save Size.

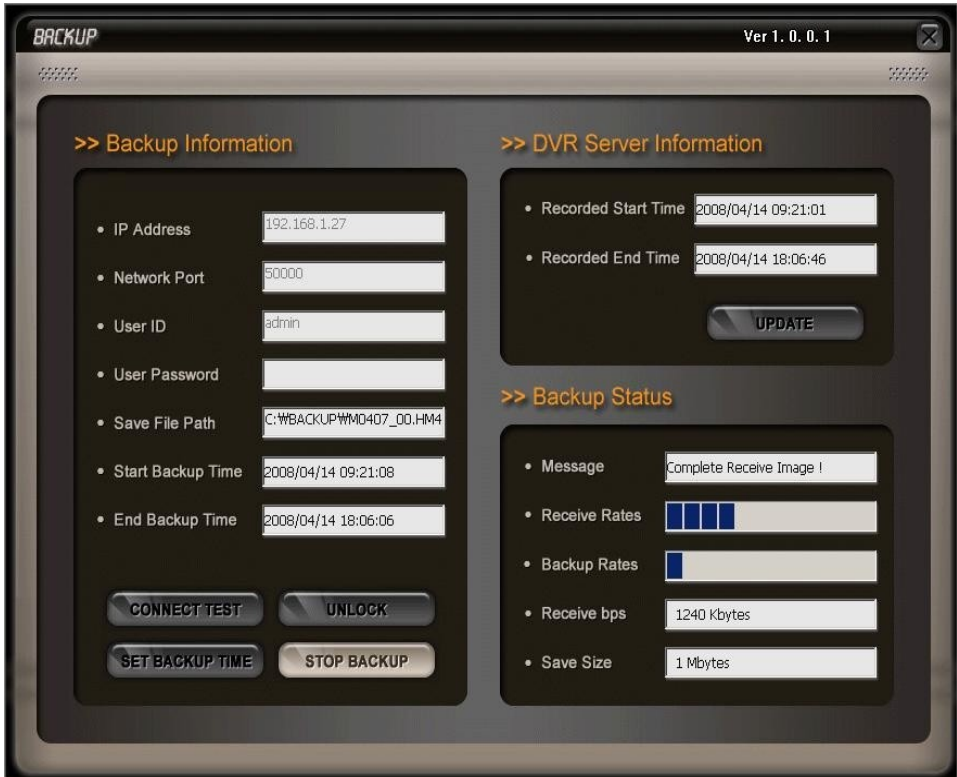
2) After Connect Test is done, you can see 'Success Connect Test!' message. Then, click 'Lock' button and click 'Set Backup Time' Button.

The screenshot shows the 'BACKUP' window after the 'Connect Test' button has been clicked. The 'IP Address' field now contains '192.168.1.27', 'Network Port' is '80000', 'User ID' is 'admin', and 'Save File Path' is 'C:\Backup\WM0407'. The 'Start Backup Time' and 'End Backup Time' fields remain '0000/00/00 00:00:00'. The 'CONNECT TEST' button is now disabled, and the 'LOCK' button is enabled. The 'DVR Server Information' section shows 'Recorded Start Time' as '2008/04/14 09:21:01' and 'Recorded End Time' as '2008/04/14 18:09:49'. The 'UPDATE' button is now disabled. The 'Backup Status' section shows the 'Message' field with the text 'Update Record Time !'.

3) Now you set 'Start Time', 'End Time', 'Save File Path', 'File Size' and click 'Apply'.



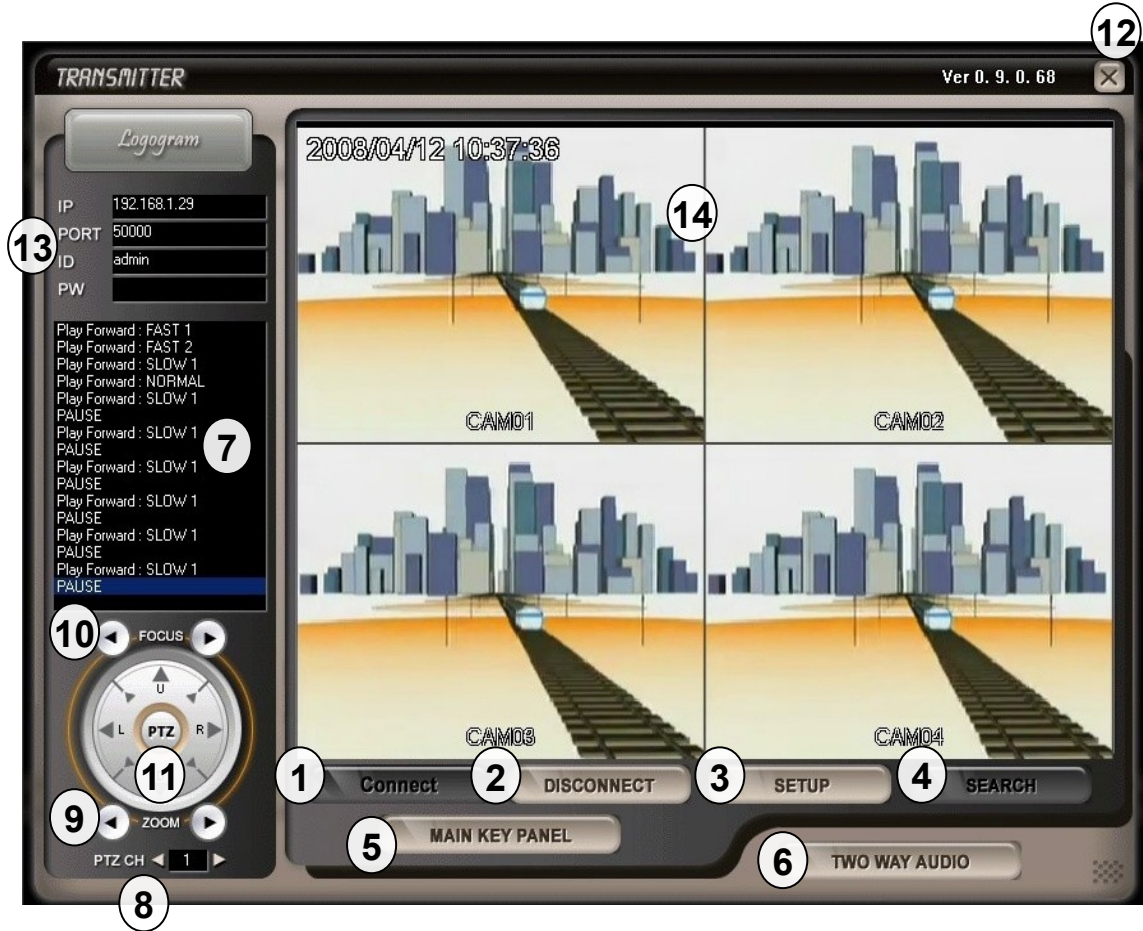
4) After finishing time setting, click 'Start Backup' to start Backup. Then, you can see the Backup on the Path that you chose.



8-3. Transmitter Operation

1) Transmitter Display

- TRANSMITTER : Program that enables connection to DVR via TCP/IP to see live screen and to control DVR.



No.	Button	Function
1	Connect	Connect DVR via network
2	Disconnect	Disconnect DVR connection via network.
3	Setup	Change or set DVR system menu.
4	Search	Search recorded data from HDD of DVR. (Date/Time Search, Event List)
5	Main Key Panel	Pop up panel to control CH, REC, PLAY, STOP.
6	Two Way Audio	Enable Two Way Audio between DVR and Transmitter.

No.	Button	Function
7	System Information	Display DVR connection and System operation information.
8	PTZ CH	Select the channel number connected to PTZ Camera.
9	ZOOM	Zoom In/Out operation of PTZ Camera.
10	FOCUS	Focus Near/Far operation of PTZ Camera.
11	PTZ	PTZ ON : Pan/Tilt control of PTZ Camera. OFF: Function as arrow keys.
12	EXIT	EXIT the transmitter.
13	User	Input IP, PORT, ID, PASSWORD of remote DVR.
14	Date/Time	Display Date/Time of DVR.

2) Transmitter – Search

The screenshot shows the SEARCH screen with the following elements and callouts:

- 1**: PERCENT / DATE button
- 2**: EVENT LIST button
- 3**: BOOKMARK LIST button
- 4**: START and END time selection fields. The START field shows [2008/04/11] 14:53:20 and the END field shows [2008/04/13] 20:54:37.
- 5**: Date and time selection fields. The fields are labeled YEAR, MONTH, DAY, HOUR, MIN, and SEC. The values are 2008, 4, 11, 14, 53, and 20 respectively.
- 6**: A horizontal slider bar with a blue indicator and a percentage display showing 0 %.
- 7**: OK button
- 8**: CANCEL button

[Search – Percent/Date]



[Search –Event List]



[Search –Bookmark List]

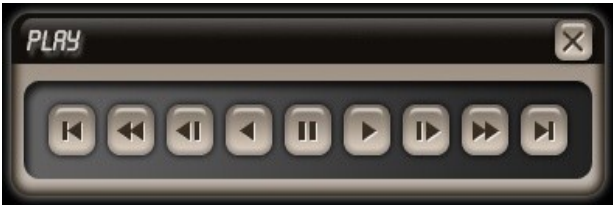
No.	Button	Function
1	Percent / Date	Open window for Percent/Date search.
2	Event List	Open window for Event List search.
3	Bookmark list	Open window for Bookmark list searech.
4	Start / End	Display Start and End time of recorded data on DVR.
5	Search by Time/Date	Search by Time and Date as entered.
6	Search by percentage of HDD	Search by Percentage of total recorded data on HDD.
7	OK	Start playback.
8	CANCEL	Close Search window.
9	Event List Index	Show Event Lists received from DVR. Double click a list to start playback or click OK.
10	Bookmark List Index	Show Bookmark Lists received from DVR. Double click a list to start playback or click OK.

3) Transmitter – Main Key



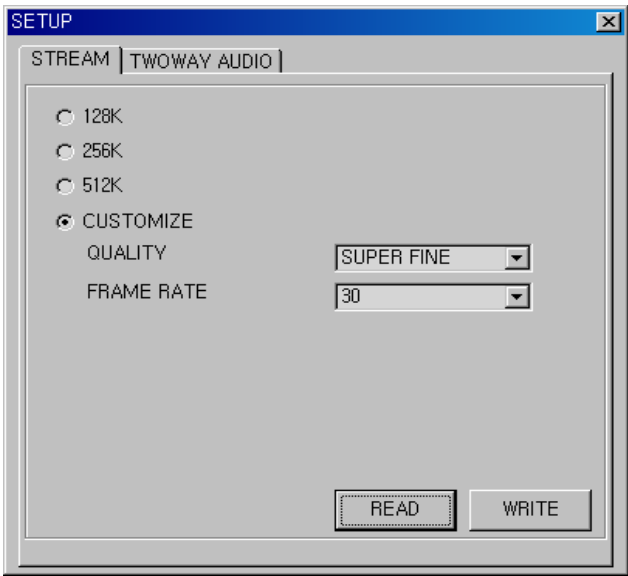
No.	Button	Function
1	Channel	Select the channel number of camera to be displayed.
2	Division	4ch, 9ch, 16ch Division.
3	Record	Force Emergency Record.
4	Play	Playback recorded image on HDD.
5	Stop	Stop Emergency Record or stop playback.
6	Mode	Screen division mode in 1ch, 6ch, 8ch, 9ch, 13ch, 16ch.
7	Sequence	Full screen image displays in sequence.
8	PIP	Picture In Picture.
9	Un FRZ	Continue playback from FREEZE.
10	Zoom	Zoom In image.
11	Pause	Stop playback for a short period of time.
12	- / +	Up/Down button for volume, channel, page.
13	Exit	Exit Main Key Panel

4) Transmitter – PLAY Panel



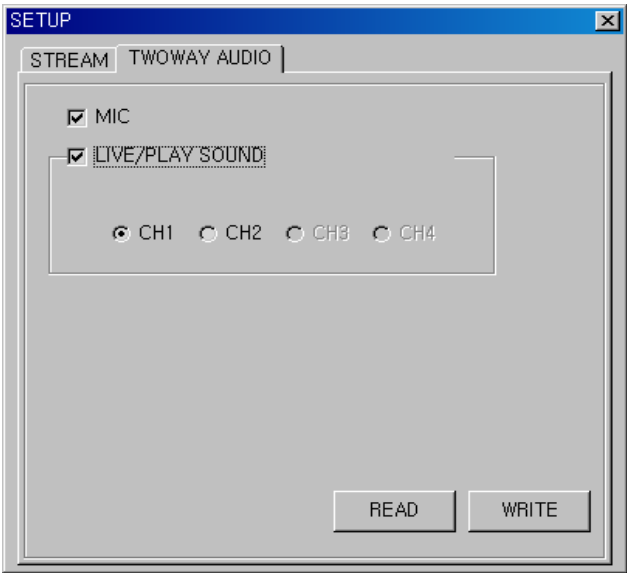
Button	Function
<	Move to the beginning of recording
<<	Increase reverse playback speed
<	Decrease reverse playback speed
<	Reverse playback x1
	Pause
>	Playback x1
>	Decrease playback speed
>>	Increase playback speed
>	Move to the end of recording
EXIT	Exit Playback Mode

5) Transmitter – Setup Page



SETUP - STREAM

Choose pre-setting for some specific network condition(128K, 256K, 512K)
Or choose “CUSTOMISE” for setting as you want.



Twoway Audio

Choose the audio input from DVR for when Twoway Audio activated.

8-4. Player Operation

1) Player Select

Please click “HIGH SPEED PC” or “LOW SPEED PC” according to your PC’s specification.
“HIGH SPEED PC” supports all channel Playback simultaneously.
“LOW SPEED PC” supports up to 4channel playback simultaneously.



NOTE

Recommended PC specification for “HIGH SPEED PC” is as below:
Processor Type : Pentium Core2 DUO or better
Memory : 1GB minimum

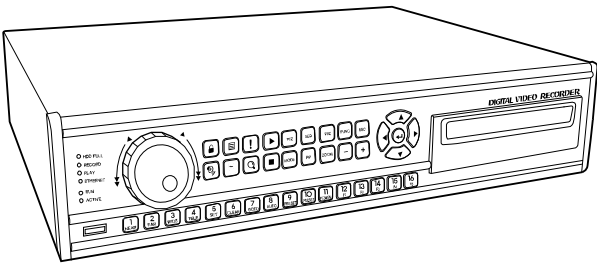
3) Player – Channel, Edit, AVI Save Panel



No.	Button	Function
1	1Ch ~ 16Ch	In full screen mode, select 1 channel to be displayed. In 4 split screen mode, select 4-channel group to be displayed.
2	Contrast	Adjust contrast of still image in full screen mode.
3	Bright	Adjust brightness of still image in full screen mode.
4	Sharp	Adjust sharpness of still image in full screen mode.
5	Image Save	Save still image in image file in full screen mode.
6	Image Print	Print still image in full screen mode.
7	AVI Save Option	Select channel, frame rate & size to convert into .avi file.
8	Start	Start saving data in .avi file format.
9	Stop	Stop saving data in .avi file format.

9. Specification and Dimension

- H.264 Hardware Codec
 - Real-Time Live Display in all Channel
 - Pentaplex (Playback/Recording/Ethernet)
 - Multi Language
 - Remote monitoring and Download through Network
 - Convenient Search Function with Jog/Shuttle
 - VGA Option (Supporting TFT LCD Monitor)
 - Firmware Upgrade via USB Port
 - Easy PTZ Camera Control with Mouse
 - Password Protection
 - Remote Control
 - User Friendly Environment by Mouse
-
- Power 110-240 VAC, 1.5A, 60/50Hz

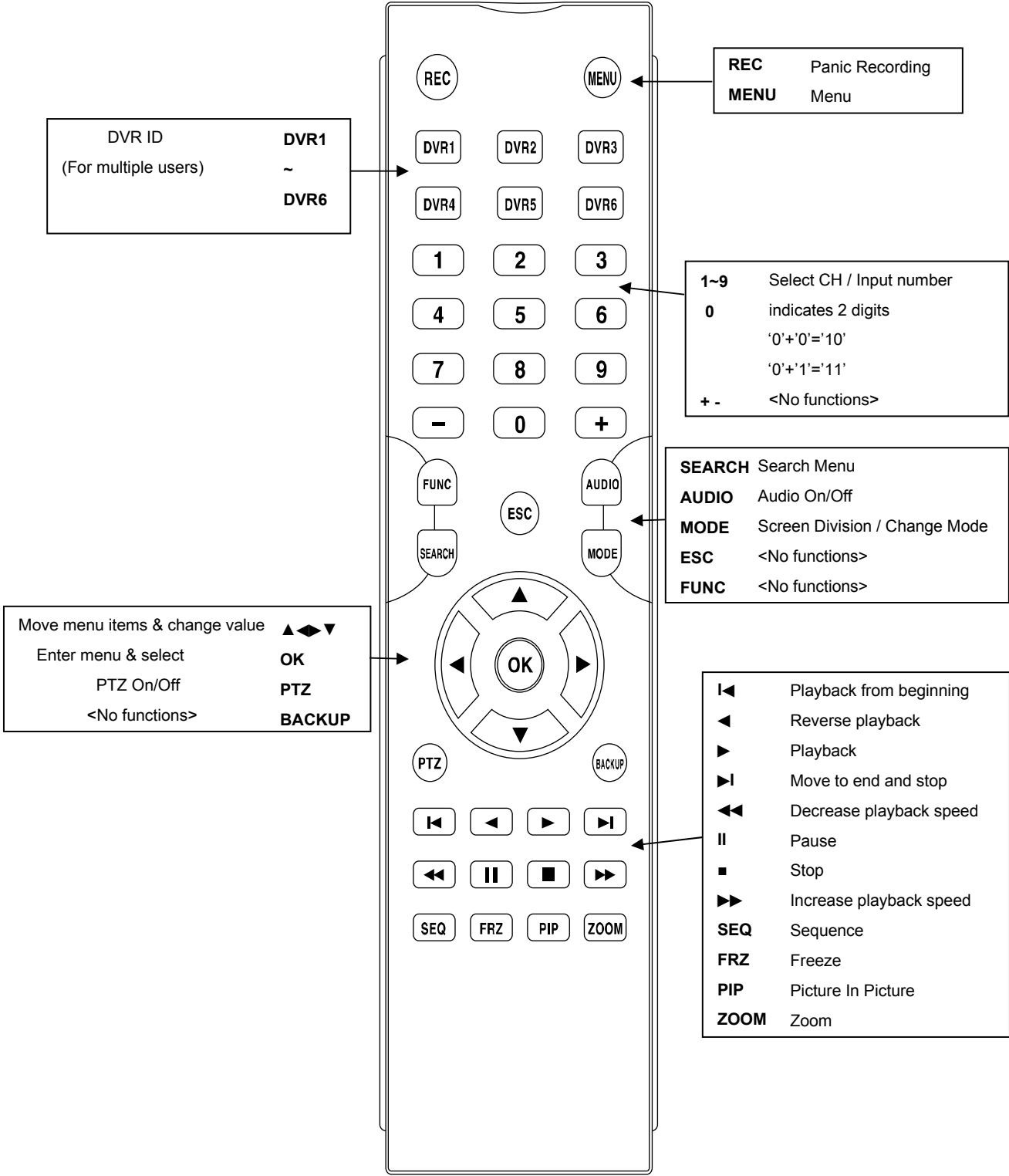


Contents		MSD-400	MSD-800	MSD-1600
Compression Algorithm		H.264 Dual Codec		
Audio		G.726 or mp2		
General Feature				
Signal Format		NTSC or PAL (Auto Detect)		
Video	In	4CH	8CH	16CH
	Out	Main, Spot, VGA		
	Loop Out	4CH	8CH	16CH
Video Compression Rate		3 Steps Selectable		
Audio	In	1CH	2CH	4CH
	Out	1CH		
Alarm	In	4EA	8EA	16EA
	Out	1 NO/NC		
Storage		2EA S-ATA HDD		
Recording Speed (NTSC / PAL)	704x480 (704x576)	-		
	704x240 (704x288)	-		
	352x240 (352x288)	120 (100) ips	240 (200) ips	480 (400) ips
	352x120 (352x144)	-		
Resolution of Motion Detection Area		Area division : 16x12 Detection Division : 32x24		
Search Mode		Date/Time, HDD%, Event, Bookmark		
Recording Mode		Schedule (Time, Motion, Alarm) Holiday, Panic, Pre-Event		
Display Speed		Real-Time		
Multi Language		English, Spanish, French etc.		

Contents	MSD-400	MSD-800	MSD-1600
PIP	1, 4, 9, 16, PIP		
Zoom	Digital Zoom x2		
Security	Key Lock		
Recording & Playback			
Multi-tasking	Quadplex (Live, Playback, Recording, Ethernet)		
Multi Channel Playback	Available		
Event Log Information	Available		
Pre-Alarm	Available		
Alarm / Relay			
Video Loss Alarm	Available		
Motion detection Alarm	Available		
Network			
Remote S/W Monitoring, Search & Playback, Back-up	Integrated Remote Station		
Internet Explorer support	Available (No need to register)		
DDNS Support	Yes		
CMS (Central Management Software)	Yes		
Simultaneous remote user access	4 persons or more		
Network Speed Value	Selectable		
Remote Setup	Available		
Data Export	Own File Format		
Back-Up & Archiving			
CD-RW	Option		
DVD-RW	Yes		
USB Port	USB 2.0		
Others			
Operation	Mouse / Remote control / Key Button		
PTZ Control	RS-485		
Menu	GUI		

Specifications are subject to change without notice.

10. Remote Control





Digital Video Recorder
Stand-alone DVR



Real-time playback / USB backup
H.264 Hardware Codec